3dtotal.com

Issue 044 April 2009

Werewolves, Gargoyles & Gothic Churches

ZBrush Character Creation

Rafael Ghencev brings us the penultimate part of our ZBrush Character Creation tutorial series with the sculpting of a **werewolf**. Head on over to page 47 where he explains how he tackled this character; you can also watch him in action by downloading the accompanying time-lapse movies!

Texturing a Gothic Interior

In **Part 3** of our Gothic Church Interior Creation series, our 5 artists take us through the texturing of their scenes, for 3ds Max, Maya, LightWave, Cinema 4D, and Modo

Tutorials
ZBrush Character Creation, plus more!

Interviews
Sven Juhlin and Thomas Mahler

The Gallery
Michal Kwolek and Sean Langford, plus more!

Making OFS
'Say Cheese!!' by Vaibhav Shah, plus more!

inside this issue
51 free textures

Creative

Editorial

Welcome to a rather foolish April issue … Just kidding! No fools here! In fact, there's nothing but yet one more great line up of artists in this month's 3DCreative, with contributions from Sven Juhlin, Thomas Mahler, Joseph Harford, Sean Langford and Rafael Ghencev to name just a few.

So where to start? Well, we have 2 great interviews for you, the first of which is with **Sven Juhlin**, whose characters are enough to knock your socks off! Currently working freelance from Stockholm, Sweden, 3DCreative got to know Sven a little better this month, finding out why he made the move from working at EA Dice to go solo (P.7). Our second artist interview (as one is, quite frankly, never enough) is with **Thomas Mahler** – another character artist who we've had the pleasure of getting to know over the past few months. This is not your average interview: it is 11 pages of awesome character designs and some of the most fantastically in-depth answers we've ever featured. One not to be missed (P.15).

Our tutorials this month take us into the world of texturing in 3ds Max, Maya, Cinema 4D, LightWave and modo, as our 5 artists walk you through the texturing phase. Not only is this an unmissable chapter as it's the penultimate in the series, but also because we're giving away **51 free textures to all 3DCreative readers** this month, too! And not just 51 plain old textures – oh no! We're giving you 51 fully tileable high-resolution textures, each with accompanying bump, specular, and in some instances normal maps, from our Total Textures collections. Aren't we lovely? Even those of you who aren't following the gothic church interior series can flick to P.81, where the 5-software series starts, and grab yourself some free textures. Go get 'em! Our other tutorials are for ZBrush and feature the return of **Rafael Ghencev** who shows us how to sculpt a werewolf, complete with tips on hair generation in 3ds Max as well as sculpting it in ZBrush for those who prefer it that way (P.47). This is Rafael Ghencev's last tutorial for us in this series; **Rafael Grassetti** will be bringing us the final chapter next month, when he creates Frankenstein's monster (I've seen it – and it is gooood!). Our other tutorials for this issue are by **Joseph Harford** and **Sean Langford** who have both interpreted and speedily sculpted the subject, 'Fantasy – Elf'. Check out P.37 to see these very different sculpts and learn some tips and tricks from their tutorials. Look out for the free movies that Sean has also provided to accompany his tutorial.

Finally, we have 2 very different making of articles this month, by **Daniel Radulescu** and **Vaibhav Shah**. Daniel gives us an insight into the creation of a modern interior (P.57), and Vaibhav takes us through the production of 'Say Cheese!!' – a solitary fish surviving in a flooded bathroom (P.63). Our galleries include greatness from the likes of **Michal Kwolek** and Sean Langford, with a bonus contribution from artist and illustrator, **Cam de Leon** (P.27).

Contents
What's in this month? 001

Sven Juhlin
Freelance Character Artist 007

Thomas Mahler
Character Artist 015

The Gallery
10 of the Best 3D Artworks 027

Speed Sculpting
With Joseph Harford & Sean Langford 037

ZBrush Character
Character Creation Tutorial Series – Part 8 047

'Modern Interior'
Project Overview by Daniel Radulescu 057

'Say Cheese!!'
Project Overview by Vaibhav Shah 063

Digital Art Masters: V3
Free Chapter Book Promotion 074

About Us
3DTotal.com Ltd Information & Contacts 078

Gothic Church Interior
Part 3 for 3ds Max, Maya, C4D, LW & modo 081

Editor
Lynette Clee

Lead Designer
Chris Perrins

Layout
Layla Khani
Matt Lewis

Marketing
Jo Hargreaves

Content
Lynette Clee
Tom Greenway
Richard Tilbury
Chris Perrins

Proofing
Jo Hargreaves

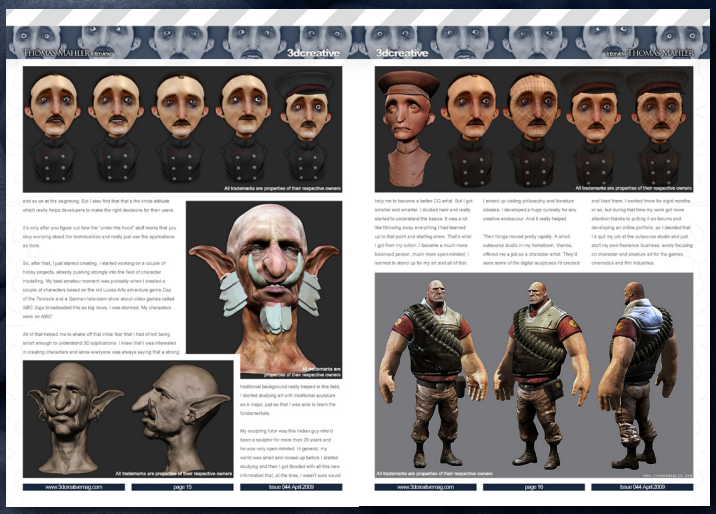
Free Stuff!

Wherever you see this symbol, click it to download resources, extras and even movies!

Enjoy the latest from your friendly 3DCreative (April) fools! Ed.

Get the most out of your Magazine!

If you're having problems viewing the double-page spreads that we feature in this magazine, follow this handy little guide on how to set up your PDF reader!



Setting up your PDF reader

For optimum viewing of the magazine, it is recommended that you have the latest Acrobat Reader installed. You can download it for free, here: DOWNLOAD!

To view the many double-page spreads featured in 3DCreative magazine, you can set the reader to display 'two-up', which will show double-page spreads as one large landscape image:

1. **Open the magazine in Reader;**
2. **Go to the** View **menu, then** Page Display;
3. **Select** Two-up Continuous, **making sure that** Show Cover Page **is also selected.**

That's it!

Contributing Artists

Every month many artists from around the world contribute to 3DCreative magazine. Here you can read all about them. If you would like to be a part of 3DCreative or 2DArtist magazines, please contact: lynette@3dtotal.com

Gothic Church Interior Creation

This tutorial series has seen some familiar faces return to tackle our latest subject. Using Richard Tilbury's concept sketch, our artists create a Gothic Church Interior for 3d Studio Max, Cinema 4D, LightWave, Maya, and for the first time, modo.

Roman Kessler

A freelance 3D artist in Germany. Since 1997 he's been working with LightWave, at first as a hobby. In 2005 he started working professionally as a freelancer, and began to use Maya in 2008 to work in a film company, although he still prefers LightWave.He loves the variety in his work, and he has a particular passion for the creation of environments.

http://www.dough-cgi.de

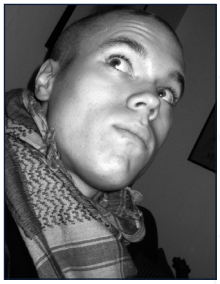
info@dough-cgi.de

Luciano Iurino

Started back in 1994 with 3d Studio on MS-Dos as a modeller/texture artist. In 2001 he co-founded PM Studios (an Italian videogame developer) with some friends, and still works for it as the lead 3D artist. He also works as a freelancer for different magazines, web-portals, GFX and videogame companies, and recently left the 3ds Max environment to move on to XSI.

iuri@pmstudios.it | http://www.pmstudios.it

Robert Bergh



A few years ago he decided that he wanted to be a 3D game artist, went to a school called Digital Graphics in Stockholm, Sweden, and is now living the dream. You can often find him lurking around various game-art related forums, such as Polycount and GameArtisans, under the alias PixelGoat, sharing his knowledge with the community.

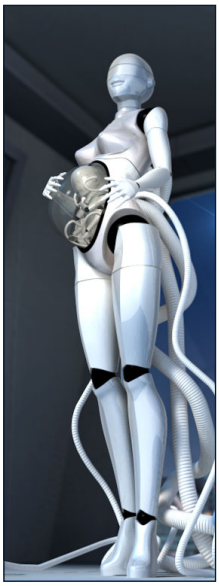
http://www.pixelgoat.se

Niki Bartucci

A freelance 3D modeller in Italy. She started working in the field of computer graphics in 2000 as an illustrator and web designer. In 2003 she started using 3D software, such as Cinema 4D and 3ds Max. In that year she worked on *ETROM - The Astral Essence*, an RPG video game for PC, developed by PM Studios.

http://www.pikoandniki.com

niki@pikoandniki.com



Would You Like to Contribute to 3DCreative or 2DArtist Magazine?

We are always looking for tutorial artists, gallery submissions, potential interviewees, 'making of' writers and more. For more information, please send a link to your portfolio or examples to: **lynette@3dtotal.com**

Rafael Ghencev

A 25-year old character artist, based in São Paulo, Brazil. He has had a passion for art since he was a young boy when he watched his grandfather painting and drawing. He has since been searching to increase his skills and knowledge, and his passion for sculpture and drawing drives him to balance his studies between traditional art and 3D.

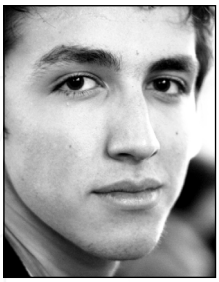
http://www.rafestuff.blogspot.com

rghencev@yahoo.com

Joseph Harford

Has been an avid artist since childhood. After freelancing in advitising and film, he worked in the games industry at Crytek GMBH, the German games company behind *Far Cry* and *Crysis*. He later moved to Ubisoft as a senior character artist, and now works as a freelance artist while running ShineFX, a digital asset company, and overseeing CGChain.com.

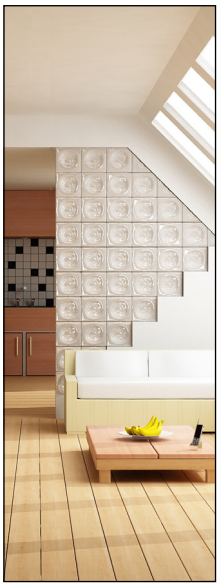
http://www.josephharford.com

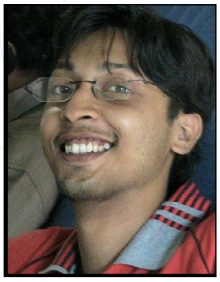


Daniel Radulescu

From Romania, 18 years old, and currently studying visual arts at an art school in Brasov. He's very interested in 2D concept art and 3D graphics, and he's been working with 3ds Max for about 4 years now. In the future, he would like to continue working with graphics programmes and learn much more about software.

happy_daniel_17@yahoo.com





Vaibhav Shah

A 26-year old 3D artist who's been working in 3D for over 4 years. He graduated in computer science, but was always passionate about drawing and animation. He recently began work on a stylised feature film, *The Dreamblanket*, as senior character modeller. He currently specialises in concept art, modelling, texturing, shaders and lighting.

http://vaibhavshah1982.googlepages.com/

vaibhavshah1982@gmail.com

image by Thomas Mahler

AVAILABLE NOW!
ORDER ONLINE

THE GNOMON WORKSHOP

behind the scenes
DVD SERIES

Vol 1: Character Design for Production
Vol 2: Character Modeling for Production
Vol 3: Vehicle Modeling for Production
Vol 4: Character Texturing for Production
Vol 5: Hard Surface Texture Painting

The Gnomon Workshop is the leader in professional training for artists in the entertainment and design industries.

This new series presents an exciting look at the creation of a game cinematic sequence. The DVDs follow a team of artists as they demonstrate their production techniques from concept phase to final rendered animation. The first five titles have been released and cover such topics as Character Design, Modeling and Texturing, as well as Vehicle Modeling and Texturing. Each DVD also includes clips from the artists' production meetings with Art Director Mark Goerner, giving the viewer further insight into the production process.

WWW.THEGNOMONWORKSHOP.COM

"The games industry has to come up with ways of faking a lot of things to make them look good. But this in turn has lead to a huge leap forward when it comes to graphics, which is great. We are not far from having photorealistic games out there now"

Sven Juhlin

Sven Juhlin is a 3D artist specialising in character design, who spent time developing his skills by working for EA Dice. Having collaborated on the successful *Battlefield* series, he now works freelance from his base in Stockholm.

SVEN JUHLIN

You'd been working as a character modeller in the game industry for over three years before branching into the freelance market. What were your reasons for making this decision?

Yes that's right; I worked as a character artist at EA Dice in Stockholm Sweden for about three years. I loved working in the game industry and the three years at EA Dice really enabled me to develop my skills.

One of the fun things about making characters for games is that you always have to come up with new ways of making the characters look good based on the platform and the game engine. Some games I have worked on have had a really low polycount budget for the characters, but a really high goal on how the characters should look in the end. In these cases it's important to use any cheats possible to make it look good. By using normal mapping in the right way, combined with detailed tillable textures, you can really push the looks of today's games.

"...ONE MONTH I'M WORKING ON A CARTOON CHARACTER FOR A TV SPOT AND THE NEXT I'LL BE WORKING ON A CHARACTER FOR A GAME CINEMATIC."

Can you tell us a little about how normal maps and tileable textures have changed the way in which characters are textured nowadays?

Well a lot of the textures are baked from the high resolution mesh. That gives you a good base to start with. It's now quite common for each

section to get its own material. This makes it look even more realistic, but of course it's a lot more expensive than using one specular map for the entire mesh.

What are the best and worst aspects of specialising in character design / creation?
The best part is probably that the characters tend to differ a lot from project to project, which makes the whole process very creative. The projects tend to be a lot shorter than they used to be at EA Dice; one month I'm working on a cartoon character for a TV spot and the next I'll be working on a character for a game cinematic. I'm not on the same project for years any more, which makes me feel a lot more motivated throughout the whole project. This, of course, is better for both me and the client, and the end result will be of a higher quality.

On the downside, it's sometimes hard for me and the client to get the same vision of the project at hand. Sometimes I only have cartoony concepts to work from and the client wants me to make the character more or less photo realistic. This tends to be a bit tricky because a sketchy concept can, in the client's mind, differ from the way that I see it. But as long as you work really closely with the client it's pretty easy to narrow it down towards the same vision. Working closely will also speed up the whole process, and in the end the client is the one that makes the final decisions.

"THE HULK AND WOLVERINE ARE REALLY POPULAR SUPERHEROES FOR ARTISTS TO MAKE, SO I WANTED TO MAKE SOMETHING DIFFERENT."

Which films based on Marvel characters do you feel have done the most justice to the central character and have looked the best from a CG perspective?

Well I really like the *X-Men* movies and *Hulk* as well. I particularly like how the Ang Lee Hulk looked. Aside from that there are not a lot of characters that are completely CG.

You have two Marvel characters in your portfolio: Juggernaut and Captain America. Tell us why you chose to model these in particular, and what is it about comic book characters that appeals to a 3D modeller?

I have always been a huge fan of the Marvel characters ever since I was a little boy, reading superhero comics. In our summer house on Gotland (an island in Sweden) we have always had a room filled with comic books, from the early 70's to comics of today, so I guess that's where it all started. So when I started doing stuff for my portfolio I tried to find some superheroes that hadn't been made so many times by other artists.

The Hulk and Wolverine are really popular superheroes for artists to make, so I wanted to make something different. But as for many others out there, I really like those two and I will probably end up with my versions of them as well!

ZBrush has advanced the evolution of character modelling, but where do you see software and tools developing in the future with regard to this genre?

ZBrush has been a great tool for me and has really helped me to develop my art. Today it's almost impossible to be without a tool like that. The detail that you can put into your models with a tool like ZBrush is amazing.

In the future I would really like to be able to use only one program. To jump between ZBrush and Maya when rendering is a pretty slow process, and the models tend to look a bit different when rendered due to displacement problems etc. But I guess that Mudbox and Maya have now taken a huge step forward in this aspect.

You mention on your website that you offer services covering both cinematic art and game art. Can you explain the main differences between the two disciplines and the general criteria for each?

Well it's a big difference. When it comes to game art you have a lot less to work with in terms of the resolution of both the mesh and the textures. The games industry has to come up with ways of faking a lot of things to make them look good. But this in turn has lead to a huge leap forward when it comes to graphics, which is great. We are not far from having photorealistic games out there now.

When it comes to making art for cinematics you don't have the same boundaries as in games. You often use displacement maps to push the details and the texture sizes are much bigger. But of course it's important to build your meshes in the smartest way possible or else the render time will explode.

Do you feel that restrictions set by game engines force you to be more creative or can this be a hindrance some of the time compared to cinematics?

It's definitely a hindrance compared to

cinematics, but it's also this that pushes the technology forward. I think that the next step will be real-time displacement maps. I know several studios that are developing that kind of technology now. This will really push the graphics a couple of steps forward, closing in a lot on cinematic quality.

Does your job require working on site or is it that you can often work remotely from your base in Sweden?

It all depends on the kind of project I'm working on. When I work with companies outside of Sweden I tend to do my work from my Sweden office. But when it comes to doing work for Swedish companies they often prefer having me on site. When I work from my office I get a lot of things done and I don't get distracted by meetings etc, but at the same time I always have to keep my client updated to make sure that I'm on the right track and that the client is satisfied with the work I'm doing. And it's always nice to be on site to see new places and meet new people.

What are the general turnaround times for creating characters and does this vary much from project to project?

It varies a lot depending on the project. If it's meant for a rendered still shot it can take somewhere from a couple of days to a couple of weeks. And when it comes to a game character it can take anywhere from two weeks to two months.

You have listed concept design as part of your repertoire. Can we expect to see some 2D work on your website in the near future?

Yes, I will definitely update my website with some 2D art. I don't have a lot of free time at the moment so I don't know when that will be, but hopefully I will have the permission to post some of the contract 2D work that I have done really soon.

Sven Juhlin

For more work by this artist please visit:
http://www.daybreakcg.com/
Or contact them at:
sven@daybreakcg.com
Interviewed by: Richard Tilbury

Vue 7™

Digital Nature

realtime:uk

used Vue to create 3D Environments for their latest HD game cinematic

Stormbirds by THQ

watch the video at
www.realtimeuk.com

©2008 THQ Inc. All Rights Reserved.

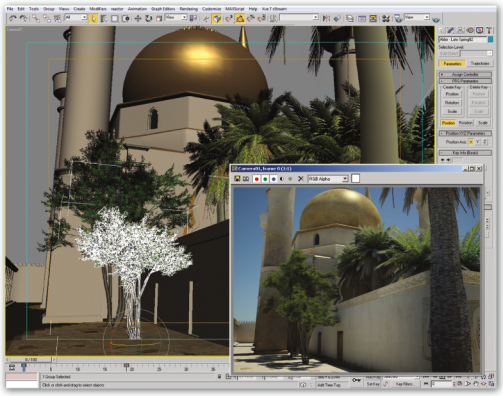
Vue 7 Infinite
$895

Special Introductory Price
Vue 7 xStream
~~$1195~~ **$1495**

Vue 7 offers professional CG artists a complete toolset for creating and rendering exceptionally rich and realistic natural environments.

With Vue 7 xStream, access all the power of the world's leading 3D scenery program directly from within your favorite application. Create, edit and render beautifully detailed natural environments using your application's standard tools.

Works with:



3ds Max mosque model, rendered with Vue environments using Mental Ray Sun & Sky.

e-on software

www.e-onsoftware.com

©1993-2008 e-on software, inc. All rights reserved. Vue, Vue Infinite, Vue xStream, Ozone are trademarks of e-on software, inc. E-on software and the e-on software logo are trademarks or registered trademarks of e-on software, inc. All other trademarks or registered trademarks are the property of their owners and are used for identification purposes only. Information in this document is subject to change without notice. Items displayed on this document are not necessarily supplied with the package.

Vancouver Film School alumni credits include **Across the Universe** Geeta Basantani, Digital Compositor **Alias** Scott Dewis, Visual Effects Artist **Ant Bully** Ben Sanders, Character Animator | Rani Naamani, Animator | Ernesto Bottger, Character Animator **AVP: Alien Vs. Predator** Shawn Walsh, Color & Lighting Technical Director **Babel** Luis Blackaller, Storyboard Artist | Lon Molnar, Visual Effects Supervisor **Battlestar Galactica** Daniel Osaki, Lead Modeler | Megan Majewski, 3D Animator | Alec McClymont, 3D Artist **Blizzard Entertainment** Alvaro Buendia, Cinematic Artist **Bolt** Lino Di Salvo, Supervising Animator/Voice of Vinnie **Charlotte's Web** Aruna Inversin, Digital Compositor | Adam Yaniv, Character Animator | Tony Etienne, Lead Lighter Kristin Sedore, Lighter **Chicago** Lon Molnar, Animation Supervisor **The Chronicles of Narnia: The Lion, the Witch and the Wardrobe** Kristin Sedore, Lighter | Shawn Walsh, Lighter | Adam Yaniv, Character Animator **The Chronicles of Narnia: Prince Caspian** Andreas Hikel, Pre-Visualization Artist | Christoph Schinko, Character Animator | Jami Gigot, Senior Layout Artist **Cloverfield** Nicholas Markel, Pre-Visualization Supervisor **Constantine** Aruna Inversin, Digital Compositor **The Dark Knight** Pietro Ponti, Lead CG Lighting Artist **Dead Like Me** Daniel Osaki, Visual Effects Artist | Alec McClymont, 3D Artist **Diablo III** Alvaro Buendia, Cinematic Artist | Steven Chen, Cinematic Artist **Family Guy** Michael Loya, Storyboard Artist **Fantastic Four: Rise of the Silver Surfer** Arun Ram-Mohan, Lighting Technical Director | Shawn Walsh, Visual Effects Executive Producer | Jessica Alcorn, Compositor **Flags of our Fathers** Aruna Inversin, Digital Compositor **Gears of War (VG)** Scott Dossett, Animator **The Godfather (VG)** Kirk Chantraine, Motion Capture Specialist **The Golden Compass** Adam Yaniv, Animator | Chad Moffitt, Animator | Thom Roberts, Animator | Ben Sanders, Animator Andrew Lawson, Animator | Matthias Lowry, Visual Effects | Tony Etienne, Look Development Justin Hammond, Lighter Pearl Hsu, Effects Technical Director | Aruna Inversin, Digital Compositor | Fion Mok, Matchmove Artist **Hairspray** Lon Molnar, Visual Effects Production Executive **Halo 3** Bartek Kujbida, Character Animator **Happy Feet** Ben Sanders, Character Animator | Thom Roberts, Character Animator **Harry Potter and the Prisoner of Azkaban** Shawn Walsh, Color & Lighting Technical Director **Harry Potter and the Order of the Phoenix** Pietro Ponti, Technical Director **Harry Potter and the Half-Blood Prince** Harry Mukhopadhyay, Lead Effects Technical Director **Hellboy** Aruna Inversin, Digital Compositor **Hellboy II: The Golden Army** Christoph Ammann, 3D Sequence Supervisor **Horton Hears a Who** Arun Ram-Mohan, Lighting Technical Director | Brent Wong, Modeler **Hulk** Geoff Richardson, Visual Effects Editor **I, Robot** Daniel Osaki, CGI Modeler | Megan Majewski, Pre-Visualization **Ice Age: The Meltdown** Ben Sanders, Character Animator | Arun Ram-Mohan, Lighting Technical Director **The Incredible Hulk** Shawn Walsh, Visual Effects Executive Producer Tony Etienne, Look Development Lead **Indiana Jones and the Kingdom of the Crystal Skull** Henri Tan, Creature Technical Director **Iron Man** Adam Marisett, Visual Effects Artist **King Kong** Chad Moffitt, Senior Animator **King of the Hill** Michael Loya, Director **Kingdom Hospital** Daniel Osaki, Visual Effects Artist | Megan Majewski, 3D Animator | Alec McClymont, 3D Artist **Kingdom of Heaven** Shawn Walsh, Digital Compositor **Letters from Iwo Jima** Aruna Inversin, Digital Compositor **Live Free or Die Hard** Jessica Alcorn, Compositor **Lord of the Rings Trilogy** Chad Moffitt, Senior Animator **Lost** Scott Dewis, Visual Effects Artist **Lucasfilm Animation Singapore** Sandro Di Segni, Senior Effects Technical Director/Lead Digital Artist | Ming Chang, Lighting Technical Director | Adrian Ng Chee Wei, Character AnimatorSeema Gopalakrishnan, CG Software Developer **Mass Effect (VG)** Sung-Hun (Ryan) Lim, 3D Modeler **Matrix: Revolutions** Aruna Inversin, Digital Compositor | Shawn Walsh, Color & Lighting Technical Director **Master & Commander: The Far Side of the World** Robert Bourgeault, CG Artist **Metal Gear Solid 4 (VG)** Josh Herrig, Artist | Yuta Shimizu, Artist **The Mummy: Tomb of the Dragon Emperor** Aruna Inversin, Digital Compositor **Night at the Museum** Allen Holbrook, Animator | Adam Yaniv, Character Animator | Chad Moffitt, Animator | Kristin Sedore, Lighter **Persepolis** Marianne Lebel, Animator **Pirates of the Caribbean: At World's End** Ben Sanders, Character Animator Allen Holbrook, Animator | Aruna Inversin, Digital Compositor **The Pirates Who Don't Do Anything: A VeggieTales Movie** Mike Dharney, Animation Supervisor **Reign of Fire** Lino DiSalvo, Animator **Resident Evil: Extinction** Joshua Herrig, Visual Effects Artist **Robots** Arun Ram-Mohan, Additional Lighting **Rome** Teh-Wei Yeh, Matchmove Artist **The Santa Clause 2** Aruna Inversin, Digital Compositor Daniel Osaki, Visual Effects Artist **Scarface (VG)** Maya Zuckerman, Mocap 3D Generalist **Shrek the Third** Rani Naamani, Animator **Shrek the Third (VG)** Samuel Tung, Technical Artist **Sin City** Michael Cozens, Lead Animator **Smallville** Geeta Basantani, Lead Compositor **Speed Racer** Aruna Inversin, Digital Compositor **Star Wars Episode III: Revenge of the Sith** Andrew Doucette, Character Animator | Nicholas Markel, Pre-Visualization **Star Wars: Knights of the Old Republic (VG)** Arun Ram-Mohan, 3D Artist | Jessica Mih, Level Artist **Stargate SG-1** Aruna Inversin, Digital Compositing Artist | Daniel Osaki, Visual Effects Artist | Shawn Walsh, Digital Effects Supervisor **Stargate: Atlantis** Daniel Osaki, 3D Animator | Megan Majewski, 3D Animator | Alec McClymont, 3D Artist **Sweeney Todd: The Demon Barber of Fleet Street** Jami Gigot, Concept Artist **Transformers** Allen Holbrook, Animator | Henri Tan, Creature Technical Director

Your name here.

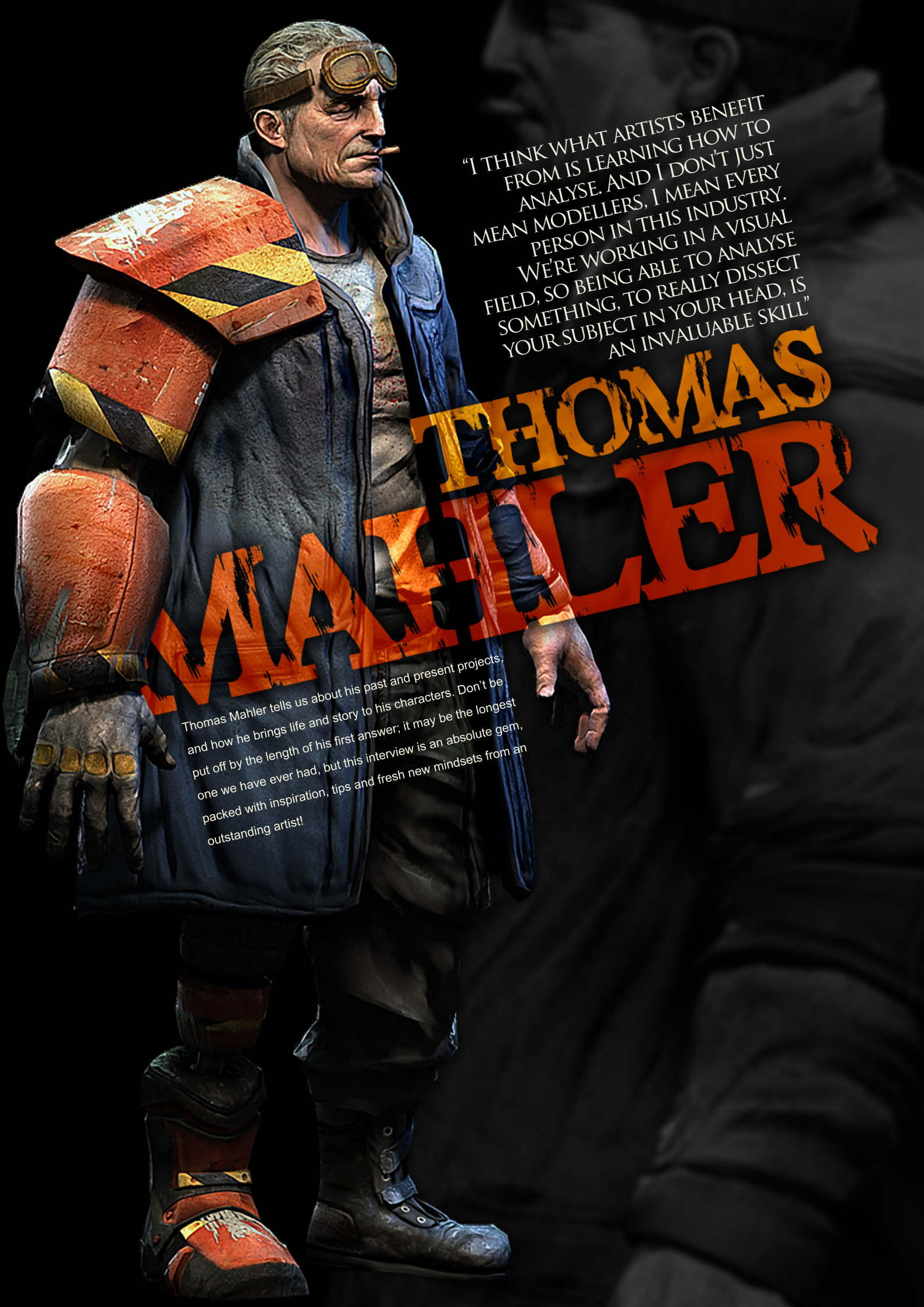
VFS

3D ANIMATION & VISUAL EFFECTS | CLASSICAL ANIMATION | DIGITAL CHARACTER ANIMATION

Vancouver Film School. Countless paths. **vfs.com/animationvfx**

Unreal Tournament III (VG) Scott Dossett, Artist **Valiant** Robert Bourgeault, Lighting Technical Director **Viva Pinata** Megan Majewski, Animator **WALL-E** Mark Shirra, Layout Artist **Watchmen** Jelmer Boskma, Previs Modeler | Lon Molnar, Visual Effects Supervisor | Cynthia Rodriguez del Castillo, Visual Effects Artist **World of Warcraft: Burning Crusade (VG)** Carman Cheung, Animator **A Wrinkle in Time** Aruna Inversin, Digital Compositor **and many more.**

VFS student work by Jeff Plamondon



"I THINK WHAT ARTISTS BENEFIT FROM IS LEARNING HOW TO ANALYSE. AND I DON'T JUST MEAN MODELLERS, I MEAN EVERY PERSON IN THIS INDUSTRY. WE'RE WORKING IN A VISUAL FIELD, SO BEING ABLE TO ANALYSE SOMETHING, TO REALLY DISSECT YOUR SUBJECT IN YOUR HEAD, IS AN INVALUABLE SKILL"

THOMAS MAHLER

Thomas Mahler tells us about his past and present projects, and how he brings life and story to his characters. Don't be put off by the length of his first answer; it may be the longest one we have ever had, but this interview is an absolute gem, packed with inspiration, tips and fresh new mindsets from an outstanding artist!

THOMAS MAHLER

Hi Thomas! Now it's been a little while since we last spoke; I think it was when we were helping you out with a work visa for a high profile job. How did that all go in the end? And can you also tell the readers a little bit about your working/ education history and what lead you up to this point?

First of all, let me thank you guys for that again. I hope I'll get my work visa in the next couple of weeks, but it's all still up in the air really. Acquiring a work visa as a foreigner isn't a simple process at the moment and the companies really need to be behind you for it all to work, but I'm in the lucky position of having a really big name supporting me right now. I hope it'll all work out, but it's really not in my hands.

This industry is really small and I learned over the years that it's a lot like a big (well, a *really* big) family. You never know who you'll end up working with or who'll inspire you later on, who'll grow the most, who'll break boundaries or who'll become a companion or a friend. So my point of view is that it's always good to help one another like you would in a family. Put your ego aside, help and try to inspire others. No good deed goes unpunished, especially not in an industry where people usually know one another, thanks to the Internet. That's why it's a really special industry that I'm really proud being part of.

So, about my education and work history: Well, I've been drawing since I was little. I was always drawing comic characters and had a passion for creating my own characters and creations, but it was always just doodles on paper - I never thought anything would become of that. As for 3D, I actually started my 3D career way back in 2003 with a trial version of 3ds Max 4.2 or

All trademarks are properties of their respective owners

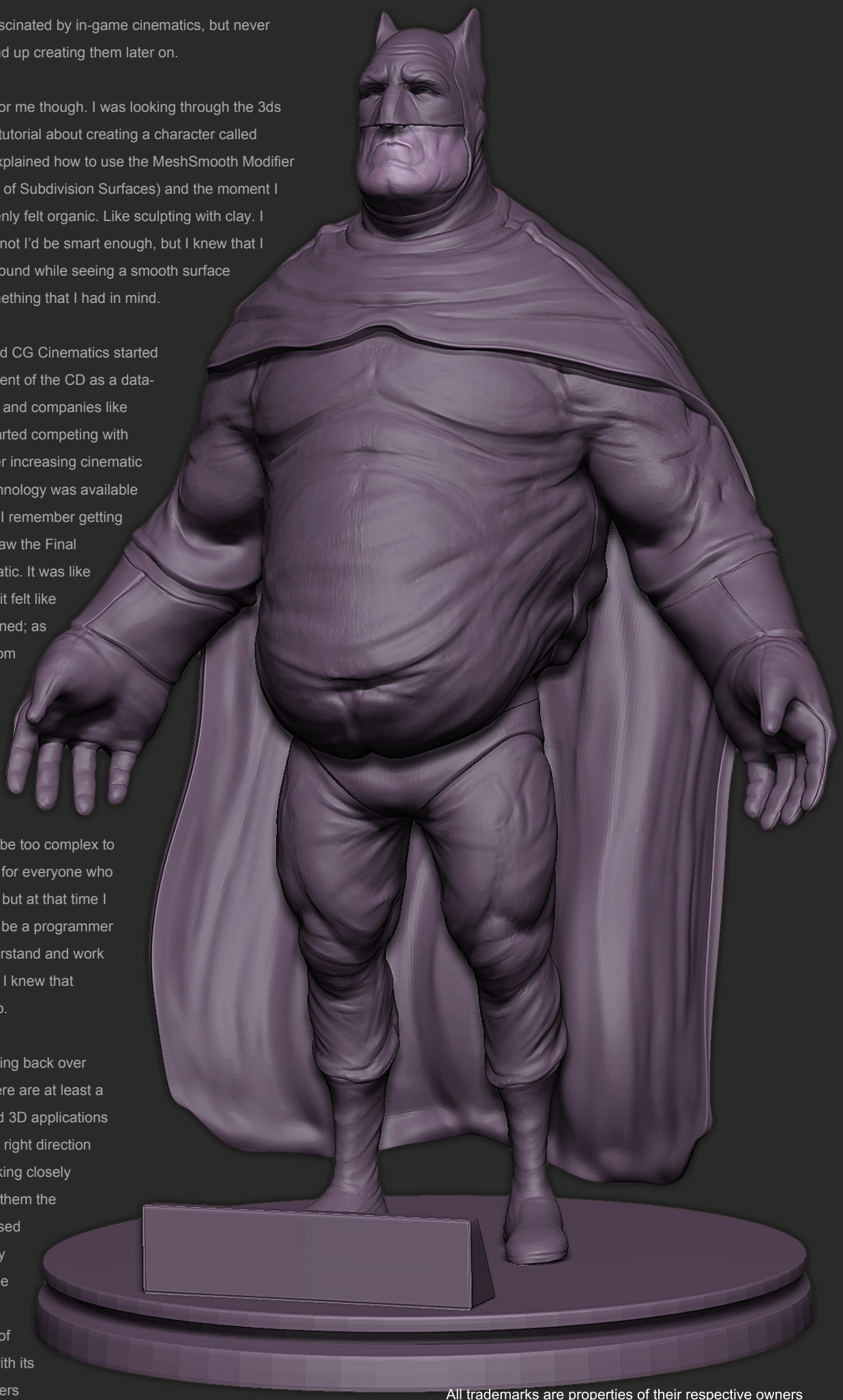
something. I was always fascinated by in-game cinematics, but never would've thought that I'd end up creating them later on.

I still know when it clicked for me though. I was looking through the 3ds Max help files and found a tutorial about creating a character called Chubby McSomething. It explained how to use the MeshSmooth Modifier (basically it's Max's version of Subdivision Surfaces) and the moment I used it, it clicked. 3D suddenly felt organic. Like sculpting with clay. I still wasn't sure whether or not I'd be smart enough, but I knew that I could move those points around while seeing a smooth surface underneath it to create something that I had in mind.

When I was 12, 13 years old CG Cinematics started to pop up thanks to the advent of the CD as a data-medium for game consoles and companies like Squaresoft and Blizzard started competing with one another in terms of ever increasing cinematic quality, using whatever technology was available back then. It was beautiful. I remember getting goose-bumps when I first saw the Final Fantasy VII opening cinematic. It was like this new door had opened; it felt like a revolution had just happened; as if the world had changed from one moment to the other. I loved it.

So I started playing around with level editors, always thinking that the "real" 3D animation packages would be too complex to learn. I had a huge respect for everyone who was championing this field, but at that time I thought that you needed to be a programmer or a mathematician to understand and work with these applications and I knew that wasn't something I could do.

Life is funny that way. Looking back over the last couple of years, there are at least a handful of industry-standard 3D applications that I helped shape into the right direction by being a beta tester, working closely with developers and giving them the right technical feedback based on my creative input. I really try to simplify and streamline everything I do; maybe that's why I was so scared of applications like 3ds Max with its gazillions of buttons, modifiers



All trademarks are properties of their respective owners

All trademarks are properties of their respective owners

and so on at the beginning. But I also find that that's the kinda attitude which really helps developers to make the right decisions for their users.

It's only after you figure out how the "under the hood" stuff works that you stop worrying about the technicalities and really just use the applications as tools.

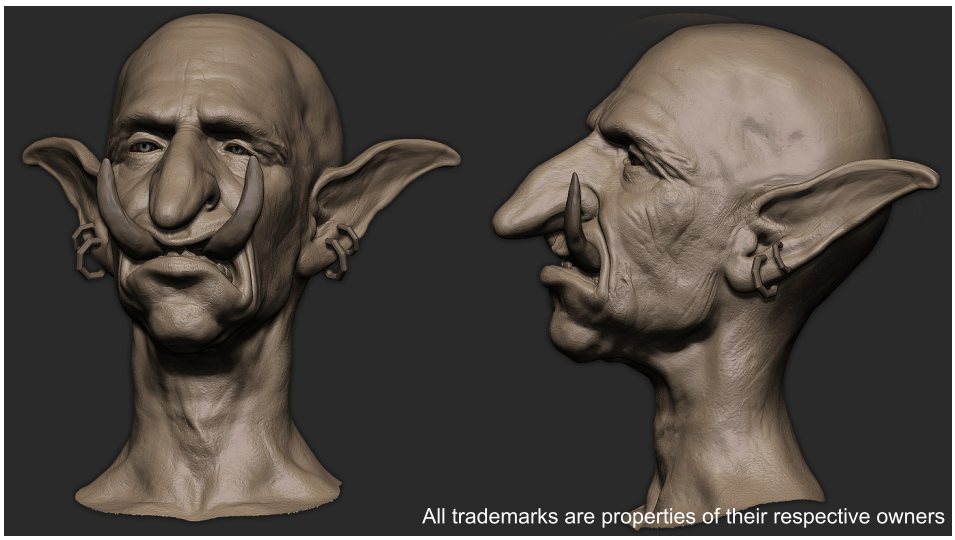
So, after that, I just started creating. I started working on a couple of hobby projects, already pushing strongly into the field of character modelling. My best amateur moment was probably when I created a couple of characters based on the old Lucas Arts adventure game *Day of the Tentacle* and a German television show about video games called *NBC Giga* broadcasted this as big news. I was stunned. My characters were on *NBC*!

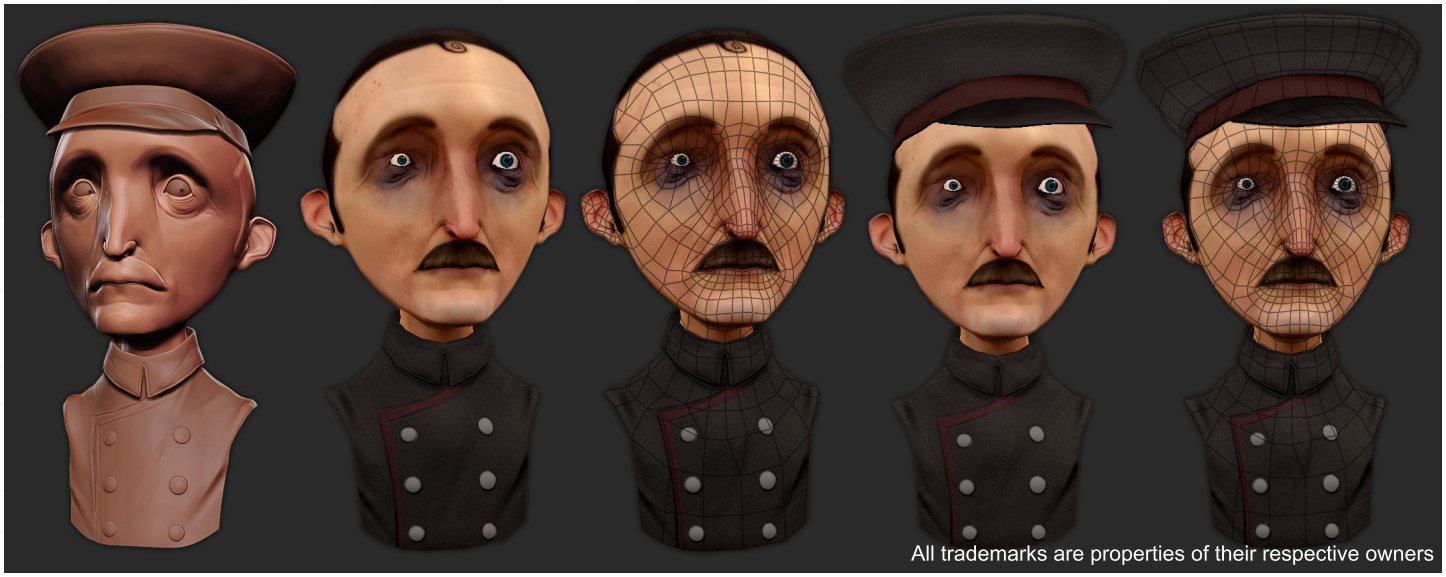
All of that helped me to shake off that initial fear that I had of not being smart enough to understand 3D applications. I knew that I was interested in creating characters and since everyone was always saying that a strong

All trademarks are properties of their respective owners

traditional background really helped in this field, I started studying art with traditional sculpture as a major, just so that I was able to learn the fundamentals.

My sculpting tutor was this Indian guy who'd been a sculptor for more than 20 years and he was very open minded. In general, my world was small and closed-up before I started studying and then I got flooded with all this new information that, at the time, I wasn't sure would


All trademarks are properties of their respective owners


All trademarks are properties of their respective owners

help me to become a better CG artist. But I got smarter and smarter, I studied hard and really started to understand the basics. It was a lot like throwing away everything I had learned up to that point and starting anew. That's what I got from my tuition. I became a much more balanced person, much more open-minded; I learned to stand up for my art and all of that. I ended up visiting philosophy and literature classes; I developed a huge curiosity for any creative endeavour. And it really helped.

Then things moved pretty rapidly. A small outsource studio in my hometown, Vienna, offered me a job as a character artist. They'd seen some of the digital sculptures I'd created and liked them. I worked there for eight months or so, but during that time my work got more attention thanks to putting it on forums and developing an online portfolio, so I decided that I'd quit my job at the outsource studio and just start my own freelance business, solely focusing on character and creature art for the games, cinematics and film industries.

All trademarks are properties of their respective owners
WWW.THOMASMAHLER.COM

I liked freelancing for the most part, but I'm not a really good businessman. I think I know enough about Marketing and Business 101, but I really didn't like the fact that I ended up spending around 50% of my time doing organisational work like dealing with clients, scheduling, emailing and so on. I still had quite a lot of output creatively, but I think every person should focus on exactly what he thinks he's really good at - and so after I got the offer to work as a 3D artist on cinematics for one of those big companies, I took it!

> "I have to switch to 3ds Max again in the upcoming weeks. I don't really mind though. A polygon is a polygon!"

Wow, sorry for such a massive answer! I'm also giving workshops about character creation from time to time and usually that's what people are interested in - how to "make it" in the industry. I don't know if I've "made it", but that's what I've been doing so far and I'm really happy about my decisions.

Let's get the technical stuff out of the way: Can you tell everyone about your preferred choice of software and creation techniques?

Oh, at the moment I'm mostly using Maya, ZBrush, Topogun and Photoshop. I used to use quite a lot of applications for modelling, since Maya was always lagging behind in terms of its polygonal modelling toolset, but I'm okay with it now, especially since Topology became much less of a headache over the past couple of years. It's a pretty good setup and I'm really efficient with it, but I have to switch to 3ds Max again in the upcoming weeks. I don't really mind though. A polygon is a polygon!

Usually, for characters I try to get to the sculpting phase as early as possible. I think the only thing in 3D that comes close to the speed of drawing is sculpting using ZBrush or Mudbox. I'm even doing concepts with ZBrush now, since you end up with a three-dimensional model that you can use for retopologizing if the client likes it. I love how the technical problems that we had a couple of years back in terms of modelling have just faded away for the most part.

Having a traditional sculpting background must help in a big way, but can you explain how? Do you think other 3D artists would benefit from experimenting with real life sculpting and if so, where should they start?

As I said, I think studying art really helped me to understand the process and to not look at a creative accomplishment with the “Gosh, I’ll never be THAT good!” mindset, but to analyse and dissect it instead and then take the next step further. That’s pretty much how art has always developed, with artists analysing what’s been done before and adding their own part that’ll hopefully inspire others again.

I think what artists benefit from is learning how to analyse. And I don’t just mean modellers, I mean every person in this industry. We’re working in a visual field, so being able to analyse something, to really dissect your subject in your head, is an invaluable skill. A modeller needs to be able to read a shape and describe it again using his own, simpler terms. An animator must understand how people behave and emulate it using the tools he has. A programmer needs to understand behaviours and physics and needs to emulate it using code. It’s all art to me.

For me it wasn’t really about how to work with clay or Sculpey or whatever, because that’s just the technique. Instead, you need to really understand the process, the essence and you must not be scared about not being good enough. Just go ahead and work with what you have.

One of the characters I like best in your gallery is “Sam Kaminski”. Can you tell us some more about the ideas behind this guy and how he evolved?

Well, Sam was actually a pitch for a client. It’s funny; when I was younger the client was one of the big names that really inspired me, so when they called me up and asked me whether I’d be interested in working with them, I was so excited. I had a lot of freedom, they just wanted to know if I could deliver in that art-style and wanted to see what I could come up with based on a loose description, so I sat down and wrote a little story in order to get a feeling for the character I was going to create. I often work with music at

All trademarks are properties of their respective owners

this stage, trying to find the right mood for the character (in Sam's case it was a track by James Newton Howard from the *Unbreakable* soundtrack, because it had this sombre feel to it) and then just start the process of creation. If I already see the story and the character in my head, it's much easier to block it out later on in 3D. Basically, I do this whenever a client doesn't pitch concepts or a storyboard or something, because if you don't define at least a bit of a character's story, you'll just end up creating something pretty shallow and your motivation will drop much sooner than you'd want it to.

"I also tried to use Frank Miller's art as inspiration (Sam shares a likeness to Frank Miller's "Marv"); I tried to give him that heavy, massive look."

I know it's a little weird to go that far for a simple pitch, but I wanted to deliver big time. Visually, the idea was that I'd tell the story of that big, massive guy who has just lost his family and even some parts of his body. A character who's given up on life and who's preparing for his last big battle. The character was meant to live a hundred years into the future, so the prosthetics would probably be believable, but I didn't want to give them a high-tech look. I wanted the whole thing to feel a bit like *Blade Runner*, where you've got all these Sci-Fi assets, but they're not out of this world, they're believable. So the idea was that a buddy of his who's working in construction (in my mind, that was the "Berny" character which you can also find in my portfolio) created this arm-thingy for him - and that's what I ended up with.

I also tried to use Frank Miller's art as inspiration (Sam shares a likeness to Frank Miller's "Marv"); I tried to give him that heavy, massive look. His coat should feel like armour, like it's shielding him. Even his skin should feel like he's gone through a lot.

All trademarks are properties of their respective owners

All trademarks are properties of their respective owners

Basically, by describing a character like that and really analysing the idea behind him, being conscious of his psychology and his physiology, you're already doing most of the grunt-work. The rest is just working it all out using the tools you know.

I notice on your site you give away some very limited info into a new project you are going to help manage called "Flood-Gate". Even though I know you want to be secretive at this stage, I really think you can afford to give us a bit of info ... Put it this way, if you don't then I might change some of your answers to say you're secretly really into rendering fairies and unicorns!

In order to stay sane in my day-job, I keep balanced by also working on things that aren't "just the same" in my free time. I need that so that my mind stays fresh and so that I don't lose my motivation, so I'm working on two private projects. I'm currently working on a mod project called "Flood-Gate" which is basically a mix between *Tower Defense* and *Gears of War 2*'s Horde Mode with art that's heavily inspired by Valves *Team Fortress 2*, Pixar, etc. I have no problem saying that I'm copying from these influences, since these projects are like scientific experiments for me, where I'm trying to become more well-rounded as an artist. I learn a lot about game-design and generally about how games are really being built, which in turn also helps me to deliver more efficiently in the art department.

Apart from my day-job and Flood-Gate, I'm also working as a one-man-team on a high-resolution 2D Side-Scroller for the PC, which is a bit of a mix between *Out of this World* and *Castlevania* using 2D art and 3D characters rendered as high-res sprites.

I really can't talk about these two projects at the moment though since they're still both at a really early development stage. I love the prospect of what both could become, Flood-Gate is all about designing a really addictive multiplayer experience without any story and the 2D Side-

All trademarks are properties of their respective owners

Scroller is a single player game where the focus really lies on getting the player involved with the story and the characters.

By looking at your gallery I would say the part of the creation process you enjoy the most is the finer facial details that almost tell the character's story. Am I right, close, or way off?

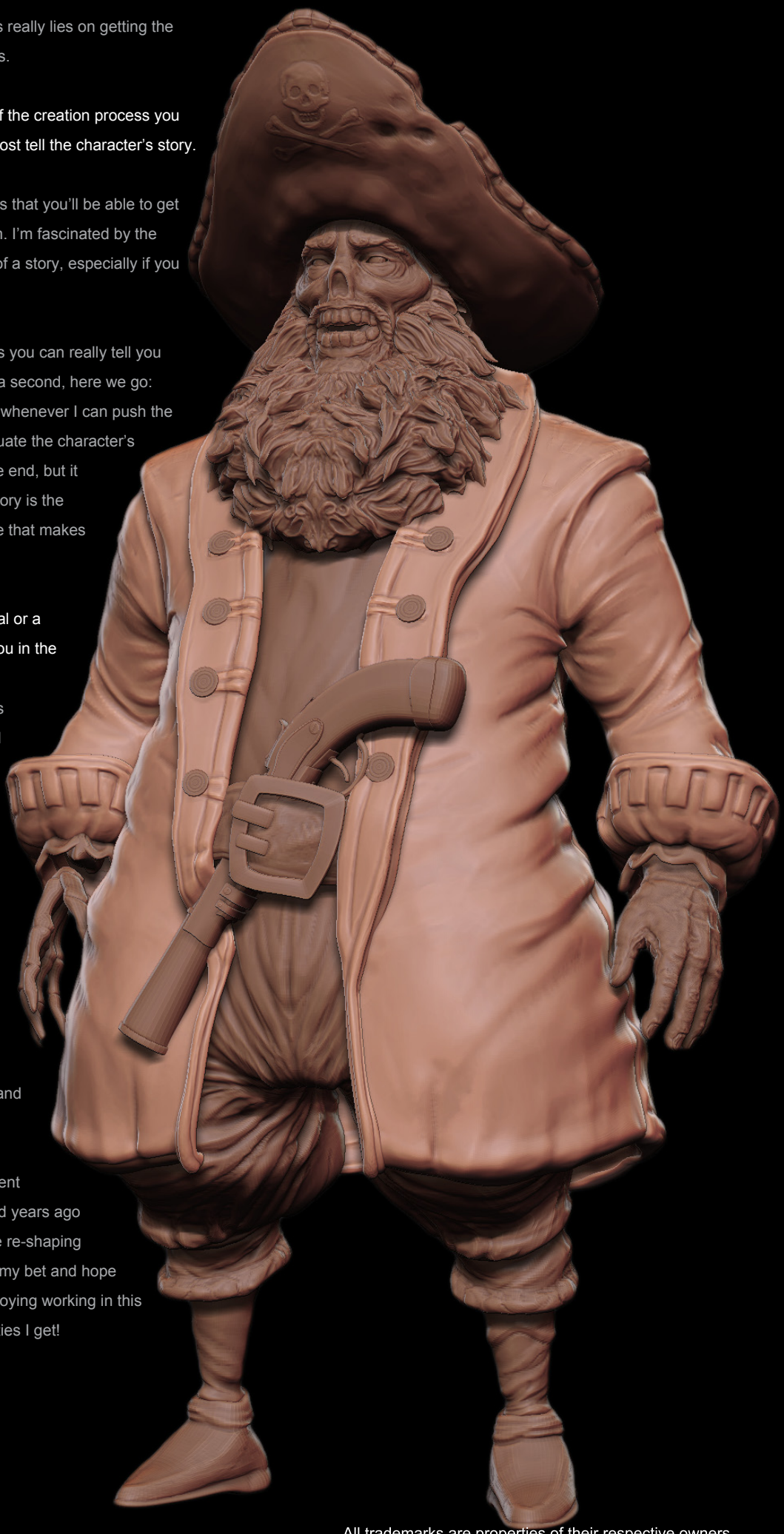
Yeah, sort of. I really just try to create characters that you'll be able to get some sort of story out of, just by looking at them. I'm fascinated by the human face, by how it can give away so much of a story, especially if you use caricature in your work.

By accentuating a character's shapes and forms you can really tell you audience a lot. I love that Picasso quote... wait a second, here we go: "Art is a lie that makes us realize the truth." So, whenever I can push the style a little further than realism, I like to accentuate the character's shapes. He might not look really "realistic" in the end, but it helps us to get the idea more quickly. So, the story is the lie - and what you make of it is your truth. I hope that makes sense!

What's on the horizon Thomas? Whether it's real or a dream project, what can we hope to see from you in the future?

Well, I have a big relocation coming up, which is the next thing I'll have to tackle. Career-wise, I'll just keep pushing in both directions, high-end and low-end, by which I mean I'll keep helping in the creation of high-end games and cinematics as well as using simpler tools and methods in my own creation of simple, focused games.

I think this is an incredible time - probably the best ever - to be creative. With the Internet and platforms like Steam, XBLA, PSN, WiiWare, iPhone's AppStore etc. popping up everywhere and giving people the chance to create games and directly sell them to a global market - and even make a living that way - we're really redefining how people live, work and learn. I think the current financial crisis is probably part of this. A hundred years ago industrialism was the big change, but now we're re-shaping and re-adjusting to this new digital age. I made my bet and hope it'll work out - but we'll see. So far, I'm really enjoying working in this great industry and I'm grateful for the opportunities I get!



Thomas Mahler

For more work by this artist please visit:
http://www.thomasmahler.com
Or contact them at:
thomas.mahler@gmail.com
Interviewed by: Tom Greenway

All trademarks are properties of their respective owners

Luxology
modo
modo is for artists

This month we feature:
Lo Wong
Maciej Jurgielewicz
Erik Karlsson
Angel Gabriel Diaz Romero (tiflos)
Sean Langford
Cam de Leon
Zdenek Urbánek
Jose Cardona
Mutlu Kilic
Benjamin Springer
Michal Kwolek
THE
GALLERY

ORANGE BRIDGE

Zdenek Urbánek
urbis.urbis@seznam.cz

AT THE INDIANAPOLIS MOTOR SPEEDWAY

Erik Karlsson
http://www.erka.se
erik.karlsson@erka.se

Demon Kta

Jose Cardona

http://www.jac3d.blogspot.com

jac3d@hotmail.com

ROBOL

Maciej Jurgielewicz
maciej.jurgielewicz@gmail.com

AIRPATROL

Michal Kwolek
http://www.kwolek.org
kreska90@o2.pl

Matilda

Mutlu Kilic

http://www.mkworksdigital.com

mutlu-kilic@hotmail.com

NIKON WITH SB800

Lo Wong
http://www.lowong.com
lo@lowong.com

WRONG DIMENSION

Benjamin Springer
http://www.exorbit-art.de
exorbit.art@googlemail.com

Hakara

Angel Gabriel Diaz Romero (tiflos)

http://hakaralunanegra.blogspot.com/

http://www.tiflos.com/

tiflos20@hotmail.com

© Angel Gabriel Diaz Romero (tiflos)

ASCENSION: CAM DE LEON TRIBUTE

Sean Langford
http://www.seanlangford.blogspot.com
slangford@GreenGrassStudios.com

'Ascension: Cam De Leon Tribute' based on the image "Fishboys" by Cam de Leon

Image by Sean Langford | Original Concept, 'Fishboys' © Cam de Leon

FISHBOYS

Cam de Leon
http://www.happypencil.com
cam@happypencil.com

'Fishboys' © Cam de Leon, www.happypencil.com

WOULD YOU LIKE TO SEE YOUR IMAGE IN THE GALLERY OF THE 3DCREATIVE OR 2DARTIST MAGAZINE?

We are always looking for tutorial artists, gallery submissions, potential interviewees, 'making of' writers and more. For more information, send a link to your work here: lynette@3dtotal.com

51 Free textures

In conjunction with our Gothic Church Interior Creation tutorial series, we are giving away 51 fully tileable high-resolution textures (each with the accompanying bump, specular, and in some instances normal maps) from our Total Textures collections to all 3DCreative readers – be sure to click on the yellow Free Resources icon in the Gothic Church Interior Creation tutorials to download your FREE textures!

Gothic Church

Interior Creation

This series will provide an overview of the principal techniques used to create a gothic interior based upon a concept painting along with a tutorial on the process of sculpting a gargoyle character in ZBrush. Key methods covering modelling, texturing, lighting and rendering will be outlined over the course of the series and culminate in a chapter on post production and how to composite numerous render passes into a final image.

3ds max Page 81

CINEMA 4D Page 103

lightwave Page 113

Maya Page 125

modo Page 137

This Month :

PART 3: TEXTURING

Learn Animation from the Best in the Business

FANTASY ELF

Welcome to the Speed Sculpting section of 3DCreative magazine. Each month we will give two talented ZBrush sculptors a brief and a base mesh from which they are to interpret and speedily sculpt a model within a suggested time. Here we will show the stages of creation of their "speed sculpts" in the form of mini tutorials. You will often find free movies to accompany these tutorials, and we hope that this series will be successful and thrive for many months to come!

This month our two skilled speed sculptors are **Joseph Harford** and **Sean Langford**, who are tackling the brief:

Fantasy Elf

If you'd like to follow along with these tutorials, we have provided the same free base mesh for you that we also gave to these two artists for their own speed sculpts. Download your own base mesh from the **Free Resources** logo below and get sculpting! Enjoy!

SPEED SCULPTING

SPEED SCULPTING FANTASY ELF

JOSEPH HARFORD

CREATED IN:

ZBrush

Fig.01

Elves have been a popular subject for art in the fantasy and 3D communities for many years. Stereotypically youthful, joyful, moral and beautiful, they imbue the qualities we wish for ourselves, yet remain relatable because of their human attributes and appearance. When I approach this speed sculpting project I want to convey my own image of a slightly older Elven woman: aged but beautiful, soft but with an element of mystery. With only six hours to complete the piece, I spend time beforehand visualising the final result. I close my eyes and bring images and ideas together, letting new ones pop into view and pushing aside those that aren't useful. Visualisation is an extremely important part of art, and even more so when you're speed sculpting. Imagining and thumbnailing images and ideas in our heads at the very beginning greatly speeds-up and revolutionises the remainder of the workflow. I see speed sculpting in the same light as I see speed painting, as a method to quickly put down ideas onto paper or 3D without getting caught up in technicalities and perfection. In my work it ends up being the second step in a painting. After thumbnails and themes are defined, it's time to put down the forms and find what works for you in poses, decoration and expressions. It can be an invaluable tool in production to lay out your ideas.

Generally, with speed sculpting, I like to work reference-free. Over the years I've built up a huge collection of images on my hard disk and in my brain. When I approach a new project and I'm coming up with ideas, I like to generate ideas from my mind and memory rather than specific references. I believe it helps me to be more original and lets me work much more quickly, as references can quickly get you caught up in details. As the goal of speed sculpting is time, as much as quality, then drawing on your previous knowledge of anatomy, clothing, and shape is essential.

Loading the base mesh, I use the Move tool (**Fig.01**) to pull it around into the shape of a female torso, because the original mesh has very masculine broad shoulders and neck. The first step is to make sure the silhouette is in-tune with the vision I have. It's useful here to put a pure black shader on the model and work with the silhouette from all angles to perfect it. The silhouette can tell you a lot about your model and should be valued in 3D as much as it is in painting (**Fig.02**).

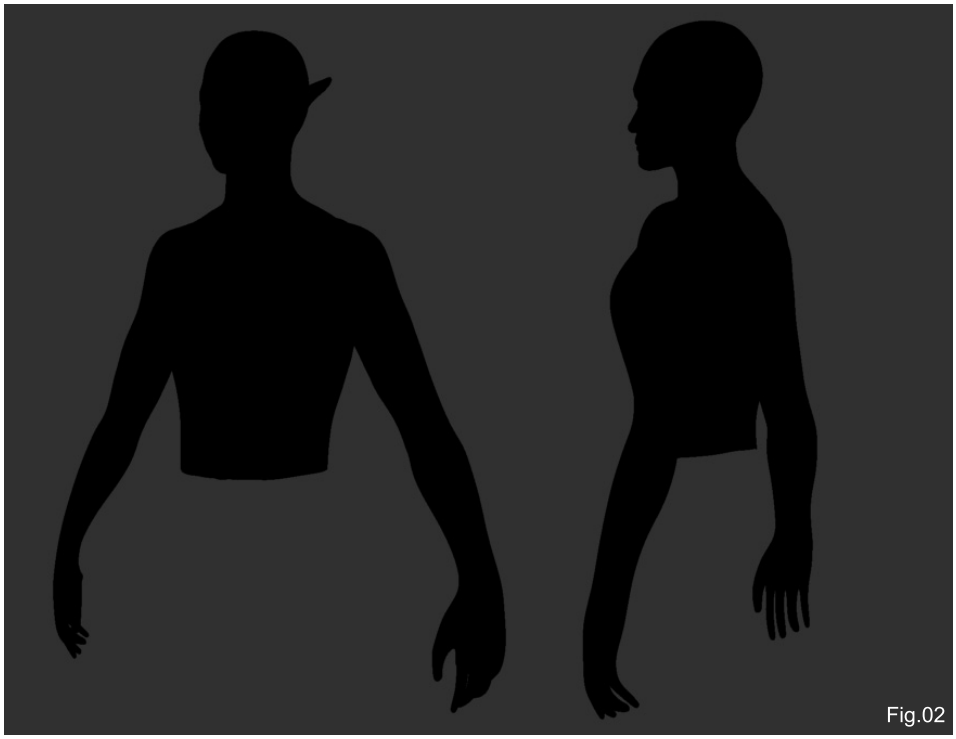


Fig.02

Once the main shapes are correct, I work on pulling out the forms of the face. Using a combination of the Clay Tubes brush, Smooth brush, and the Standard brush (with a BrushMod setting of 30), I add and subtract all over the face to build up the shapes (**Fig.03**). After sculpting many faces, I have refined my process and feel most comfortable and productive sculpting in the following order:

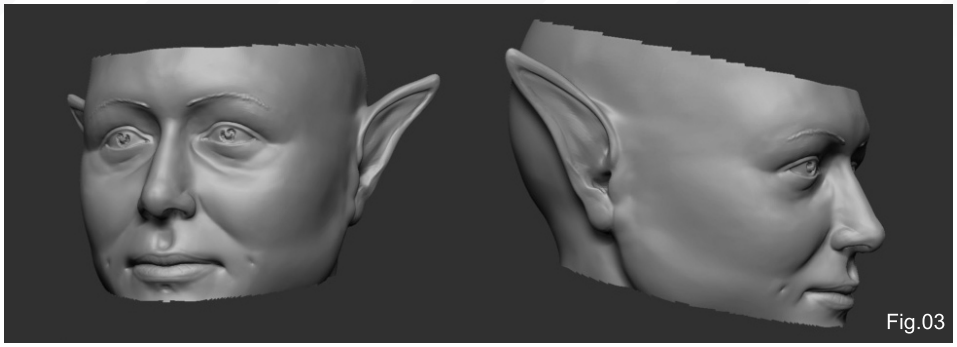


Fig.03

Fig.04

Head – The Basic Shape

I first block out the silhouette of the head, making sure the skull shape is correct from all angles. I pull in the bridge of the nose from a profile view, and pull out the nose itself, midway down the head. I hollow out sections for the eyes. Using these hollows I define where the eyes will be and mark their position in the mesh. I draw a line down from the corner of the eye and in line with the nose I sculpt the furthest point of the cheekbone. I block in the jaw bone and the muscle between it, and the cheekbone. Here I define whether the jaw is feminine or masculine. Next I move on to the mouth area, sculpting a spherical form from the nose down to just above where the chin will be. At this stage the mouth and chin look almost ape-like. I then use the Clay Tubes brush to sculpt the nasolabial fold from the corner of the nose in an arc down to the chin. I use the Standard brush to sculpt the lips in the centre of the spherical section. I make these quite chiselled by using the Flatten tool from an over-and-under view, and then smooth out and add volume to the lips later. I now cut into the section under the lower lip and create the chin.

Fig.05

Eyes

I move on to the eyes next as they need to be defined and on a mesh without eyeballs. I sculpt as I would in real life with clay, using many of the same techniques. I add a spherical extrusion where the eyeball will sit in the hollow, then use the clay tubes brush to paint in the upper and lower eyelids. Doing it this way lets you get a lot more volume and depth to the eyes. I overlap the upper eyelid at the corner and sculpt the lacrimal caruncle (the small blob in the inner corner of the eye). Then I add the fleshy area above the eyes that runs up to the eyebrows, also using this stage of the modelling to define the eyebrows as well as adding the brow.

Ears

Right now is a good time to sculpt the ears. If the base mesh has ears I like to paint the main sections of the ear as a mask, invert it, and then pull them out. Then while the mask is selected I pull the geometry over the masked area and smooth. This gives a lot of depth and allows you to create overlapping sections, which is much harder with standard sculpting. Masks can be extremely useful in speed sculpting and I use them a lot over the course of the sculpture to quickly create shapes and forms without spending valuable time carving away at the model.

Now, when the face is complete, I work on posing the model (**Fig.04**). I want to create a feminine, mysterious pose with an element of secrecy. I use the transpose tool to pose the character. I mask off the area I want to pose (such as the arm), Ctrl + click on the area to fade the mask so the deformation is smoother, and then I invert the mask by Ctrl + clicking outside the model. I turn off Edit mode, and click Rotate. I drag a Transpose tool from the elbow of the arm to the tip of the finger. I then use the circle by the fingers and rotate it into position. It pivots around the first created circle (**Fig.05**). This is very useful, because it mimics the way bones work in real life. It's very easy to pick up that circle and pivot from somewhere else, so posing the character becomes light work (**Fig.06**).

Fig.06

In my mind I have the elf in a Georgian era dress with large, bunchy shoulders and ornately detailed fabric. Now that the anatomy of her body is correct and she is posed, I can pull out the geometry around her shoulders to create the bunched fabric and begin sculpting the cloth (**Fig.07**). I want her arms to be visible through the light cloth pinned around her shoulders. For the cloth, I use some helpful tips on brushes that can aid in the cloth sculpting process, namely the gravity option in the brush panel of ZBrush. This option simulates the drag of gravity on the brush, pulling the geometry down as you paint a stroke. It's an invaluable tool that makes the sculpting process even faster! I use this brush a lot to sculpt the folds in the fabric, tightening here and there with the Pinch tool. I use the Flatten tool on the sides of the folds to add a bit of stylisation to them. For the detail on the dress, I use the Standard brush tool with a large, hard circular alpha. I add a bit of noise variance to make it slightly furry and paint in the dress detail, in a patterned way, across the whole dress.

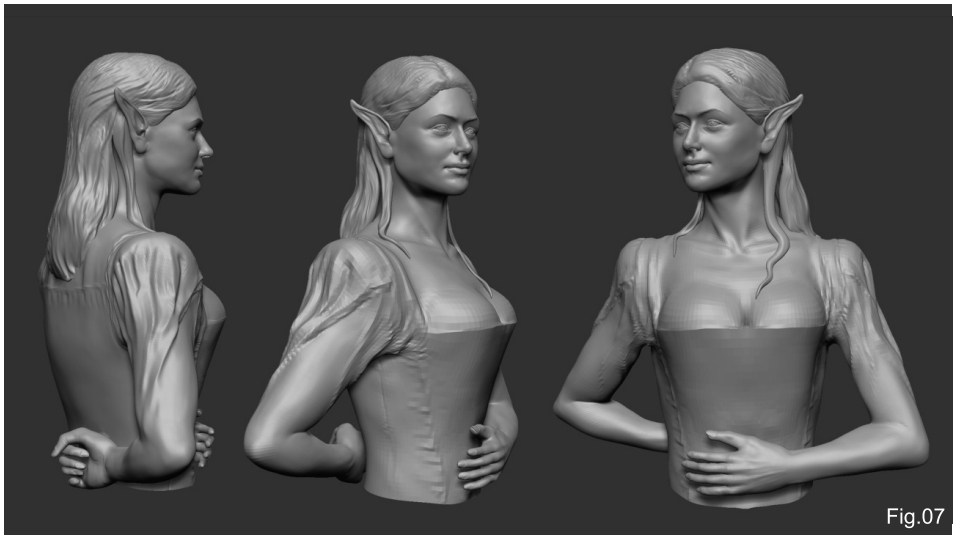


Fig.07

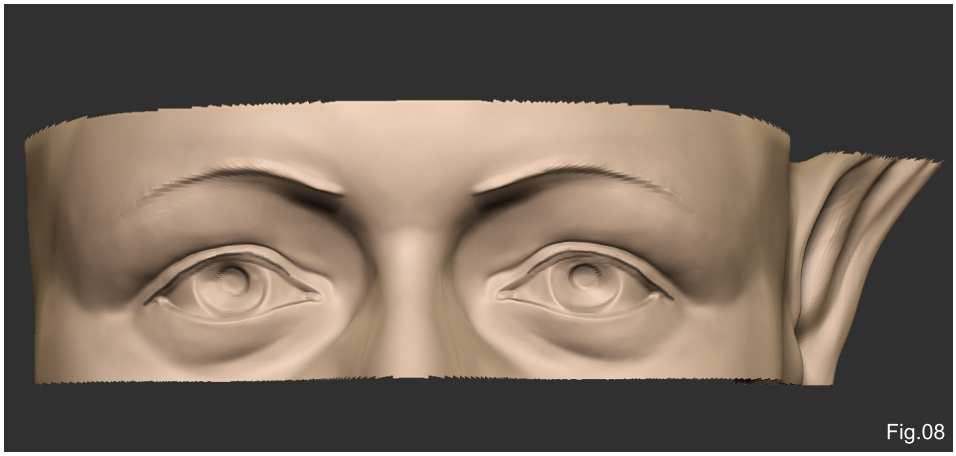


Fig.08

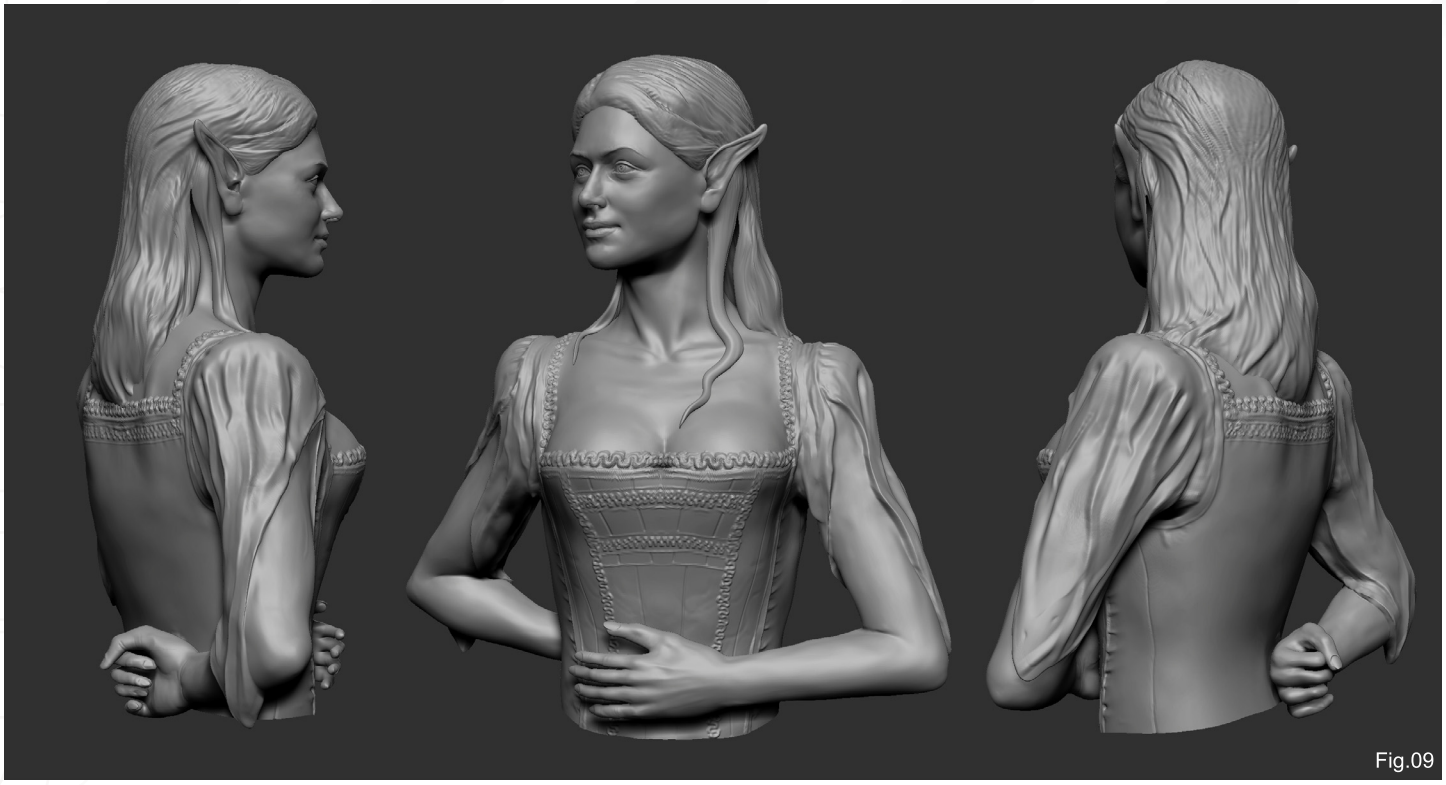


Fig.09

When I look back at the model at this stage, I'm not happy with the eyes because I feel that they don't have enough emotion in them. I look to sculptures of the past where the eyes have been sculpted with an indented circle for the pupil, with a small chip in the centre left un-dented to suggest a reflection. This gives the model the look I am after, so I use the same technique to edit my model. I also enlarge the upper eyelid so that it's much thicker than the lower one (a rule of double thickness works well). Top lighting casts a nice shadow over the eye and brings more realism to the sculpture (**Fig.08**).

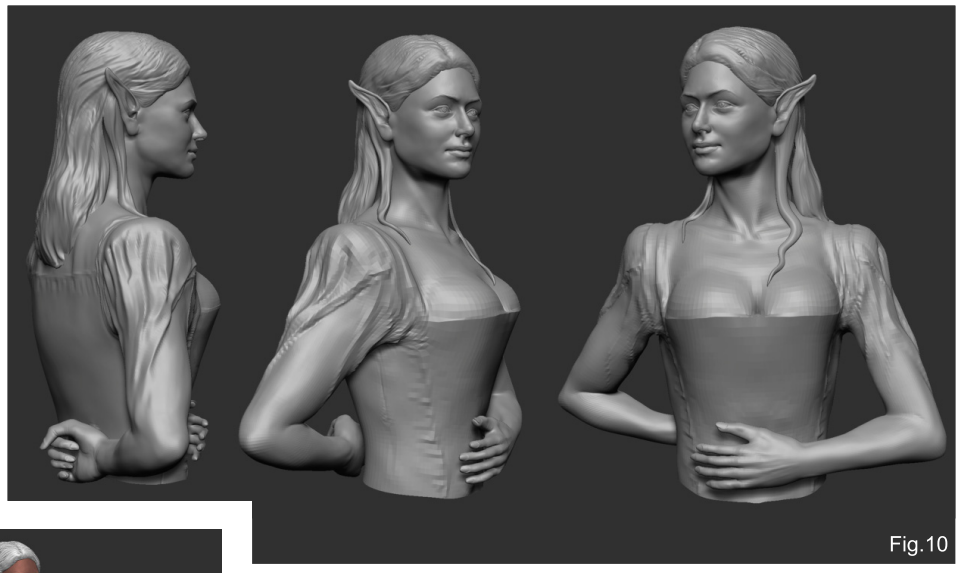


Fig.10

Fig.11

The model is done, six hours are up, and I'm happy with the outcome (**Fig.09 & Fig.10**). The sculpture stands alone as a piece of work but also serves as a great concept to begin work on a more detailed version. Poses, clothing, anatomy, and ideas have all been worked out during this short speed sculpting session, allowing the production of an enhanced, final version of the piece to be much speedier (**Fig.11**).

JOSEPH HARFORD

For more from this artist visit:

http://josephharford.com/

Or contact:

Josephharford@googlemail.com

Sean Langford

Created In:

ZBrush

Introduction

There are hundreds of articles and tutorials that lay out exactly how to use programmes and their tools; this isn't one of them. Instead, I want to share more of my thought process during a speed sculpt.

Elves have always been a common part of fantasy stories. With traces all over the world and as far back as Old Norse mythology, elves have been described in many different incarnations. From the small and mischievous variation common among folklore, to the more contemporary version made popular in J.R.R. Tolkien's, *The Lord of the Rings* trilogy. So when I was given the brief for this task, I knew I had plenty of options. After searching the web and gathering some of my favourite concepts and references, I got a general idea of my concept.

Now speed sculpts are useful in many different ways, but as my drawing skills are sometimes more of a handicap, I tend to use speed sculpts for fleshing out concepts: quick, dirty, and to the point. Depending on the concept and the idea I want to get across, I find that my speed sculpts fall into two forms. If I want to show a specific detail idea, like a wound or face, I allow the main focus area to have more detail and leave the rest rather minimal. But for this model, I'm going with the stylised, all-over-simplified speed sculpt. Deciding on this technique sets you up for a more experimental sculpt. You can play with different ideas and options to get a feel for what is going to work best for the character design, without losing time on details you don't end up using.

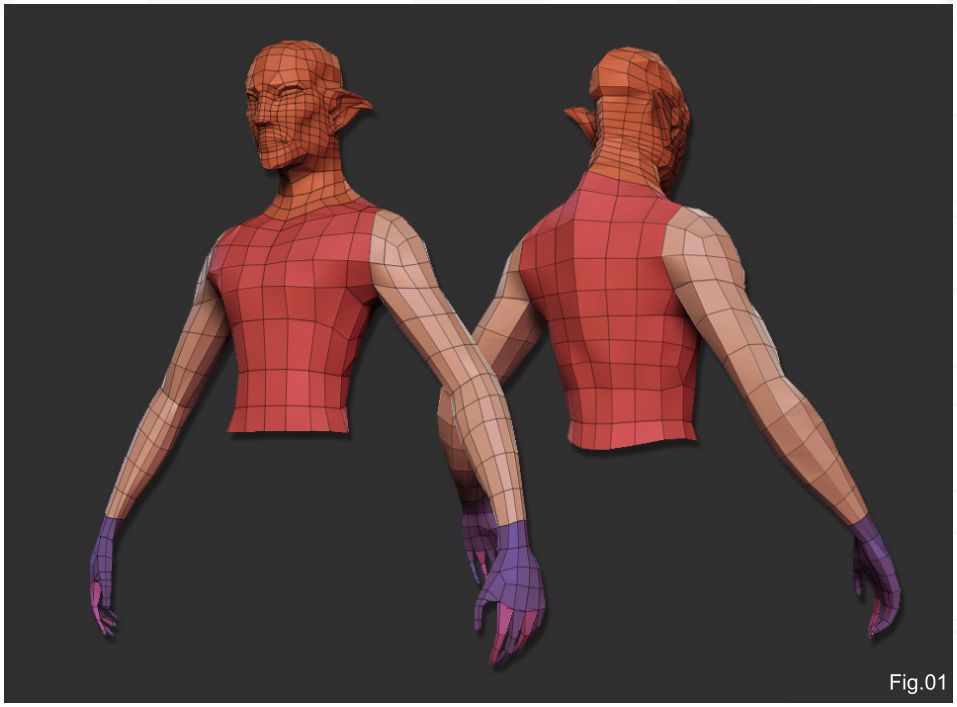


Fig.01

Part I: Basic Form

I know that I want to keep the same basic human proportions, with just small adjustments to the shape of the skull. The first thing I try to do after loading the base mesh is to set up some polygroups (**Fig.01**). Strategic polygroups can save you a lot of time and headaches throughout the sculpting process. With the human bust, I find that separating the head, torso, arms, hands, and fingers into separate groups seems to help the most. This allows you the option of quickly hiding or masking geometry you are not currently focused on. Be sure to group coinciding parts together (e.g. left/right hands, left/right arms and so on), so that you can work in symmetry. It's also worth noting that, while you can separate all the fingers individually, I find that just separating the index and ring fingers gives you enough room to work on all of the fingers individually

While it is best to always start at the lowest subdivision and work your way up, I tend to

Fig.02

Fig.03

divide the mesh a time or two right off the bat, if only because I would rather work with a more pliable mesh. I usually start a pass with the Move or Inflat brush to thicken up muscle areas or adjust the shoulders and head shape. For moving larger portions at a time, you can also utilise the Move tool (W). To lengthen the skull's shape, I simply mask off the 'face' from the back of the jaw up, blur the mask a time or two, then just pull the face forward some. This works well for lengthening arms and other appendages too.

I was sure I would add armour and accessories, but those things can easily cover up a mistake in the base shape. So for now, I go ahead and take a few minutes to actually line out the major muscles and features, like the pectorals and rib cage (**Fig.02**). This makes any major errors in proportion more evident and gives me guidelines for placing the armour.

PART II/III: DESIGNING THE ARMOUR

For a full production sculpt, I would actually build the hard surface parts in another program and import them into ZBrush for detailing. But this is a speed sculpt and ZBrush is great for quickly testing out many different ideas. I start by adding layers – one for the base shape and one for testing armour designs. This way, if any design testing gets to out of hand, I can always revert back to the base mesh layer. Using the masking feature, I "sketch" on different ideas (**Fig.03**). I'm now just simply colouring in the different parts and pieces, testing out shape and size. Once I get a shape I like, I invert the mask and quickly brush over the area with a large Layer or Clay brush (I prefer the Clay brush because the Layer brush's defaults are usually too powerful). When unmasked, you can clearly see the edge of the piece. If the part's thickness seems acceptable, I like to emphasise

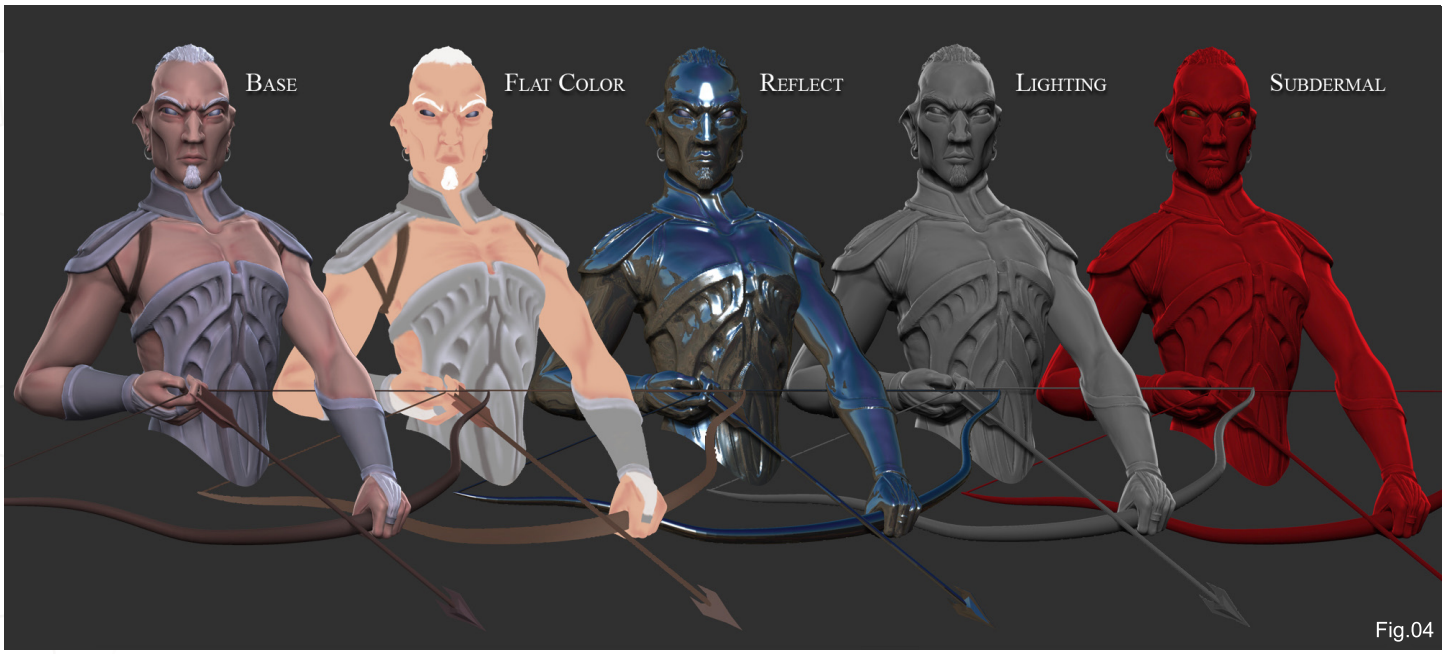


Fig.04

the edge with Fatmiri's Standard 2 brush (http://www.fatmiri.com/gpage4.html). Sometimes it's also helpful to use the original mask inverted (again) to push the skin edge back down. Now, I wouldn't suggest this technique for overly thick parts, as it can be quite messy on the mesh.

If sculpting with the Standard brush, you can easily end up with a surface that may be too lumpy ... like a field of rolling hills. This is because the Standard brush's profile is rounded. I use the Clay brush for most sculpting as it seems to just slowly layer on more material. If used carefully in the negative state, it begins to flatten out the surface. This is useful for imitating most surfaces, but the Flatten brush will prove to be the most useful in creating a hard surface look.

Part IV: Pose

For some concepts, pose is the most important. With sculpts where a dramatic pose provides 90% of the idea, posing the base mesh early allows you find the soul of the piece without its details being a distraction. But luckily, ZBrush's Transpose tools allow you to still pose after the initial sculpting process. With a design like this one already in place, you are slightly limited in how extreme the pose can be – push the pose too far and the armour pieces with look distorted and warped. Fortunately, this sculpt doesn't really require a dramatic pose. I envision a strong, silent elf and I believe that could be emoted through a simple defiant stance.

I construct a simple bow and arrow in 3ds Max using splines. Converted to an editable mesh and exported as an Obj file, I import the prop into ZBrush and append it as a single new SubTool. This way I can easily move and rotate them together. I keep the design of the bow

Fig.05

FINAL CLAY TURNAROUND I

simple because it is secondary to the character and I do not want it to be a distraction.

The pose tools can be somewhat awkward at first – think of it as a bone; placing the gizmo where an actual bone would be and rotating as the real bone will always give the most accurate deformation. This is also where good polygroups come in handy. Sometimes the masking feature with the pose tools can give unruly results, but alternately, you can Ctrl + click on a polygroup to automatically mask the other groups.

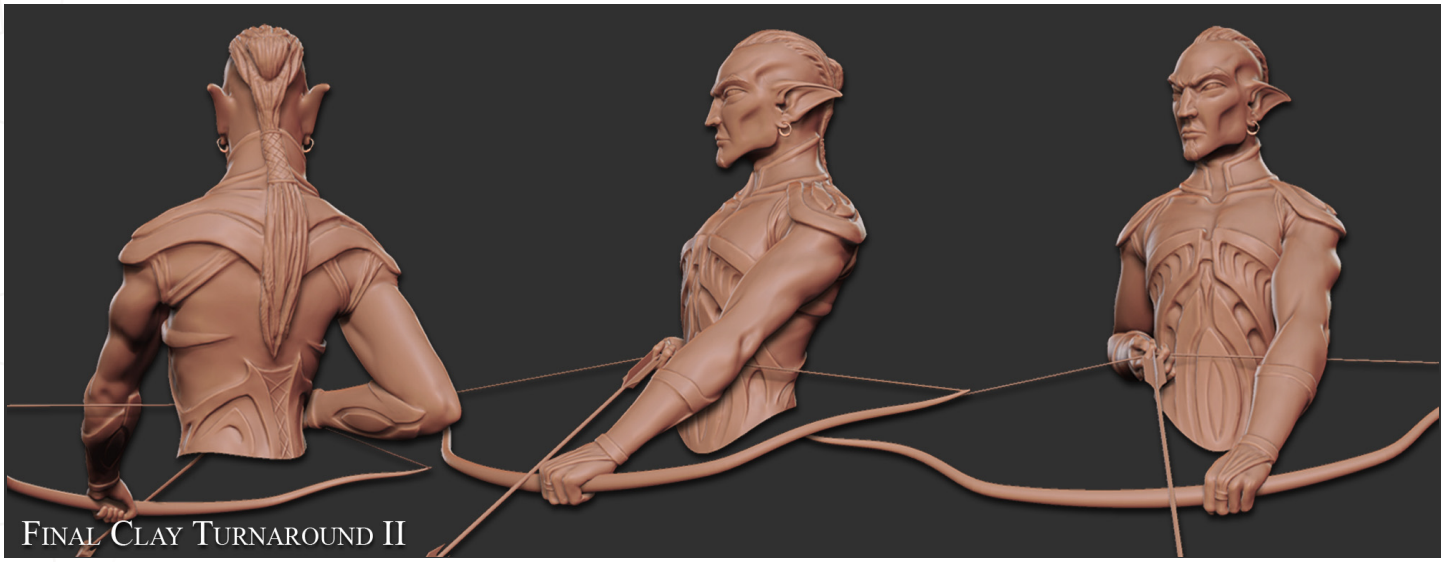
PART V: RENDER

For the final render, I spend a few minutes doing a quick polypaint over the model. This, in combination with a flat colour, reflection map, and grey/lighting pass, gives me the basics for a quick composite in Photoshop (**Fig.04** & Fig.**05**). I love Ralf Stumpf's OilClayRed material (http://gnomonology.com/tutorial/220) – not only for sculpting, but when the A and B channels are set to full monochromatic (under the modifiers tab) the result can be used for a slight lighting pass that has strong side lighting. Another trick I find helpful here is to take that pass, or one similar, and crank up the red hue to give me a subdermal layer. When masked out in the correct areas and applied very lightly, it can help "fake" a subsurface look for skin.

So this was my process for speed sculpting. It works for me and I think that is what every artist truly needs: something that works for them. Skills take time and practice, neither of which can be given through an article. So take whatever you can from this and give it a try. See if it works for you.

SEAN LANGFORD

For more from this artist visit:
http://www.seanlangford.blogspot.com
Or contact:
slangford@GreenGrassStudios.com



FINAL CLAY TURNAROUND II

www.cgoverdrive.com

16 – 19 June 2009

HALL 9, SINGAPORE EXPO

CG OVERDRIVE 2009

- Comprehensive Showcase of Computer Graphics Technologies
- Knowledge-centric Conference and Professional Tracks
- Opportunities Galore at Recruitment Overdrive
- Impressive Gallery of Digital Art & Short Films Screening

Organised by:
VCO Visual Communication Order

Strategic Partner:
Singapore Exhibition Services Pte Ltd

Supported by:
mda Media Development Authority Singapore
3dsense Media School School Of Interactive Visual Arts

Held alongside:
BroadcastAsia2009

"You need to keep calm when sculpting and learn to walk before you can run – there is no use running into the next stage without properly establishing a good base shape that you can work from"

Werewolf Character Creation ZBrush

Welcome to the new ZBrush Character Creation tutorial series. Each month, Rafael Ghencev will take us step-by-step through the transformation of a clean, generic head base mesh into a character type of 3DCreative's choice! We thought that topics such as a wrinkled, gaunt, old man, a steroid-pumped guy with popping veins, an extreme tattooed and pierced dude, and even some real extreme cases of personality disorders in the form of a vampire and a werewolf, would be fantastic for detailed sculpting work! On top of all these, Rafael thought it would be cool to sculpt and texture Frankenstein, and we agreed, so we've even thrown that one into the line- up for you as well. So stay-tuned over the next nine months to see Rafael at work and to learn a thing or two about detailed sculpting in ZBrush for characters. This eighth tutorial covers the development of a Werewolf.

Enjoy!

September 2008
Part 1: Old / Gaunt

October 2008
Part 2: Obese

November 2008
Part 3: Steroid-Pumped Guy

December 2008
Part 4: Extreme Piercings & Tattoos

January 2009
Part 5: Beaten-Up

February 2009
Part 6: Zombie

March 2009
Part 7: Vampire

April 2009
Part 8: Werewolf

May 2009
Part 9: Frankenstein

Download your free base mesh here!

werewolf

Created In:

ZBrush, 3ds Max & Shave and a Haircut (plugin)

Concept

Hi everyone, I'm back to work on a new character – a werewolf! Before I start any project, like always, I search for references on the Internet. In this case, I searched for photographs of real wolves to help with the creation of my character.

Basic Shape

To start this character, the first thing I do is to have a think about how to start the creative process, using the references gathered to put together some ideas. I then kick things off by loading up my base mesh and putting the teeth into my new scene that I created for the last character (**Zombie – February 2009 Issue #042**). Working with Symmetry turned on I select the Move brush and play around a little, using the brush in a large size, simply searching for a good form/shape at this stage of the game (**Fig.01**). Remember the importance of concentrating only on finding good shape and form at this early stage of the process?

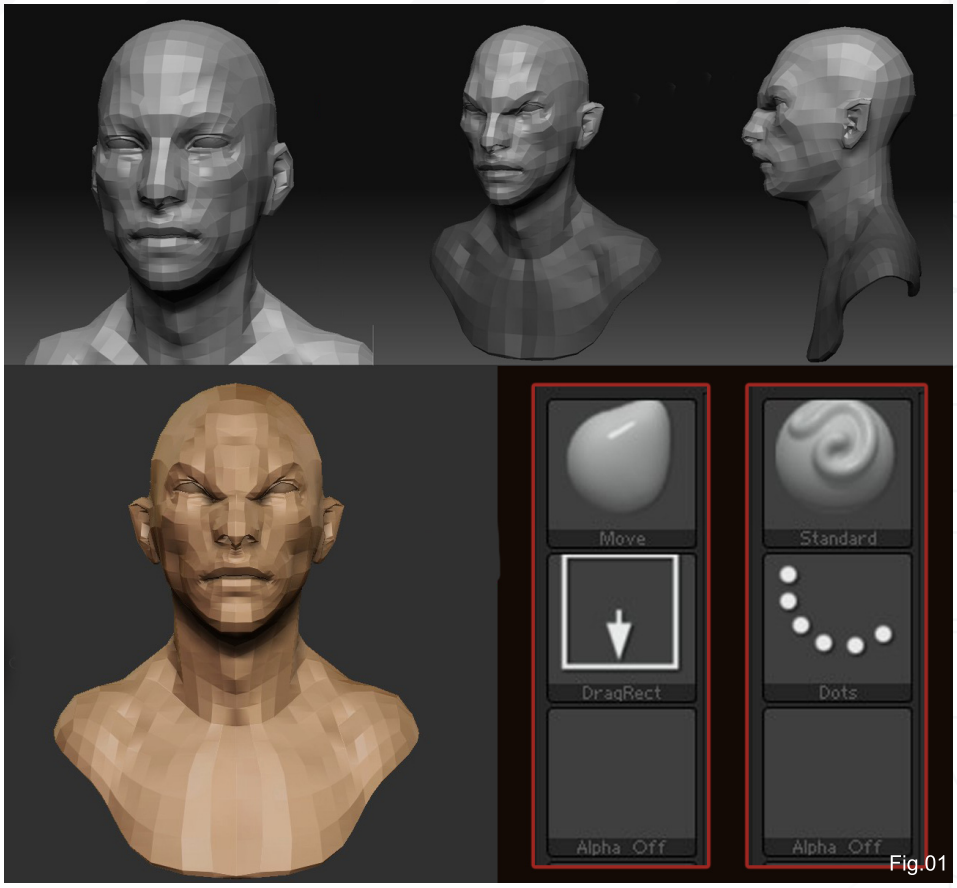


Fig.01

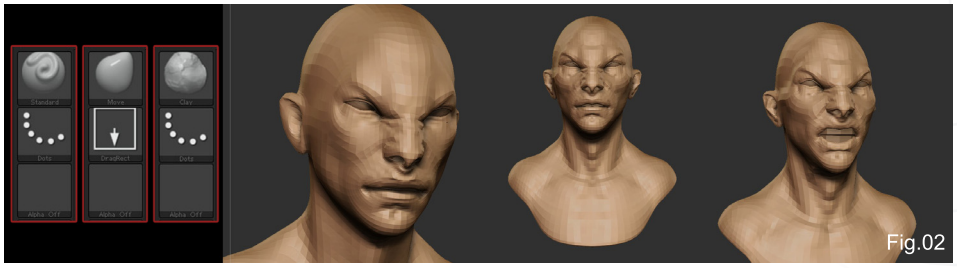


Fig.02

With the basic shape solved I can start to refine the model by adding one more level of subdivision. Now, using the Clay brush, I can start to draw the bones and muscular structure of the entire model. I then select the Standard brush and start to draw some specific volumes in the eyebrow and nose areas. At this point, I decide to change his facial expression using the Move brush with a high radius – just to add more to character's face (**Fig.02**).

Until now, the important part of the work has been in finding a good structure and shape for the character. Details are not important here. You need to keep calm when sculpting and learn to walk before you can run – there is no use running into the next stage without properly establishing a good base shape that you can work from. So with this now done, we can proceed to the next step.

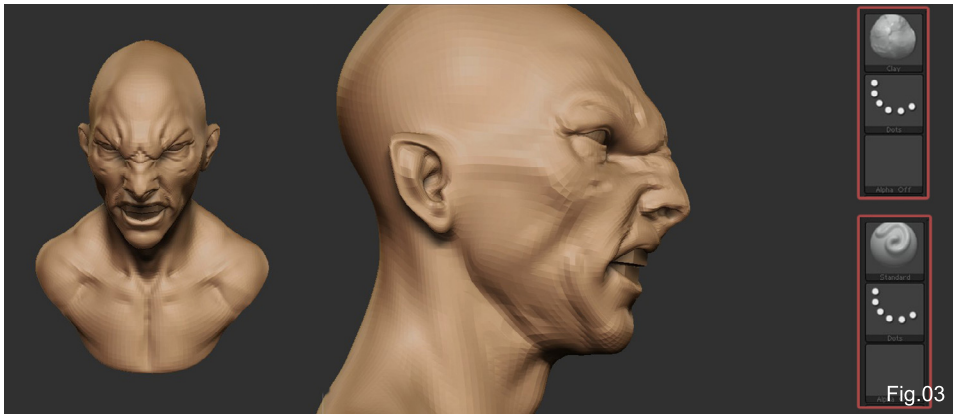


Fig.03

Refining the Shape & Initial Details

Selecting the Clay brush, I start to refine his bone and muscle structure, adding more volumes to the mouth orbicular, the zygomatic bone, the eyebrow structure, etc. Remember that it is very important to work with references

in order to improve the quality your work; in this case I'm using some wolf photo references to make my character's expression more brutal, more animal-like (to see the type of image I was using as a reference, try searching for photo ID #83422727 on www.gettyimages.com (check box for "Creative" images)). Selecting the Standard brush, I draw skin folds in the eyebrow and chin areas to help refine his expression and add further detail to it – all in all, making it much more believable (**Fig.03**). I'm really going for a tense jaw look and feel.

Now it's time to give more attention to the individual shapes and details of the face. Using the Clay brush, I improve the shape of the nose, and then select the Standard brush, with alpha 38, to add wrinkles around his eyes, mouth and forehead (**Fig.04**). At this stage we're still not into the high details yet – we're still sketching!

Fig.04

We can now start to work without Symmetry turned on, in order to achieve a much more natural look to our character – in particular I'm working in-between his eyebrows to take away the symmetry.

Details

To start this part of the process I select the Clay brush and start to add some skin imperfections, one by one, making little movements to create small eruptions on the surface of the skin. I then change the stroke for a spray stroke, choose an alpha such as 38, and then change the brush to ZSub to create little cavities – simulating pores.

Using the Standard brush with alpha 38 I start to add some wrinkles around the neck and eyes. To improve the volume of his wrinkles I select the Inflat brush with a low value and start to inflate the wrinkles to give them a more natural appearance (**Fig.05a**).

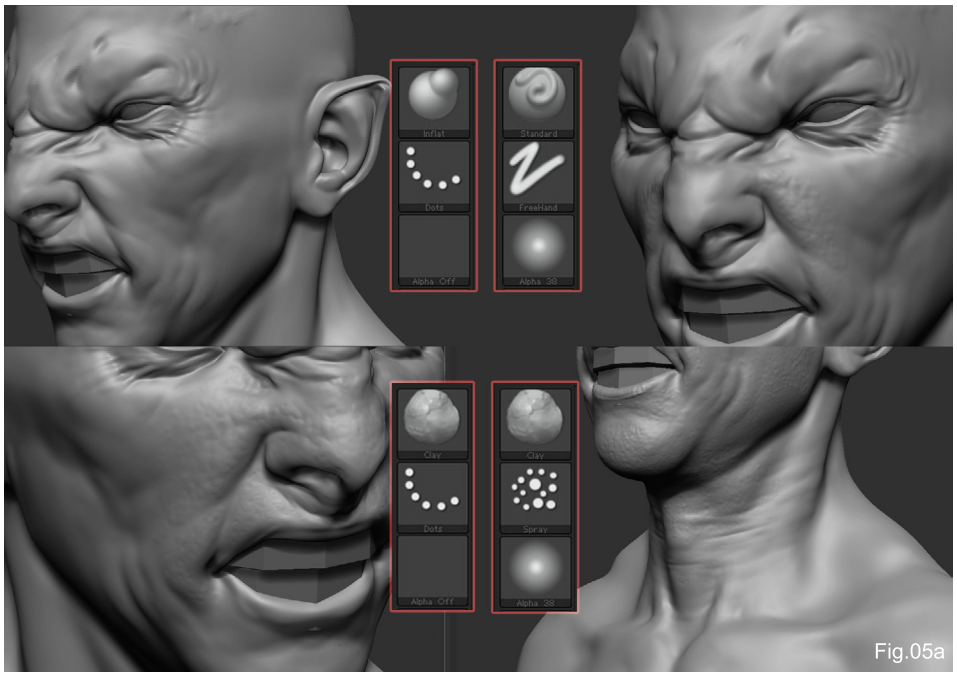


Fig.05a

At this point I decide to add more small wrinkles in his eye area; for this, I select the Standard brush with alpha 38 and start to draw some cavities. References here are very important

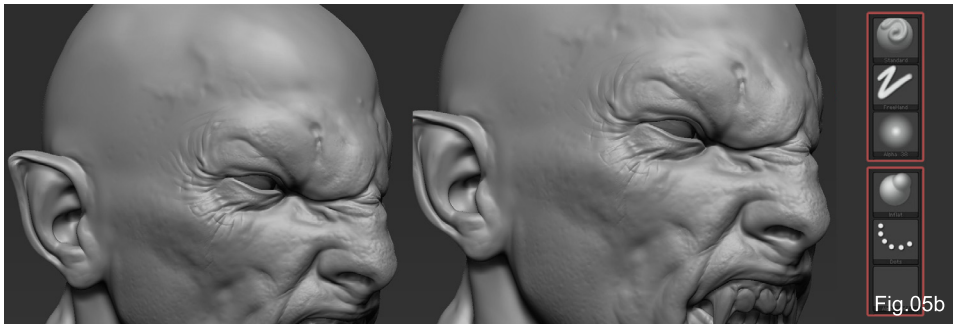


Fig.05b

in order to understand the flow of the wrinkles. I then select the Inflat brush again and use it along every cavity to add more volume to it (**Fig.05b**). Using the same process I add yet more wrinkles to his chest area, but this time after drawing them I select the Clay brush and paint some skin volume variations, giving a look which is much more natural for his skin.

Selecting the Clay brush, changing the stroke for spray and selecting alpha 38, I now start to draw some pores and skin imperfections onto his body. This is a great form to suggest a growing beard, but in this case it's not necessary because I'll be creating the hair shortly (**Fig.05c**).

Fig.05c

Teeth

To create the teeth I make some divisions, and then, selecting the Move brush, start to push the major teeth – therefore creating the canines. I select the Standard brush again to create the separation between each tooth. To finish up the teeth, I choose the Clay brush to sculpt the gums and to refine the volumes of the teeth, giving them a more natural finish (**Fig.06**).

Hair – in ZBrush

To create the hair I have decided to show you not one, but two possibilities; the first one is to create the hair in ZBrush, and the second will show you how to use 3ds Max.

So to create my werewolf's hair in ZBrush, I start by selecting the Clay Tubes brush; this tool is great for creating large, flat volumes and is a variation on the Clay brush tool. With this tool I start to sculpt the form of the beard, trying to get some flow in the movement of the hair. I select the Standard brush with alpha 38 and a low radius and I start to draw some little edges to give the beard a more interesting look (**Fig.06a & Fig.06b**). I then use the same process to

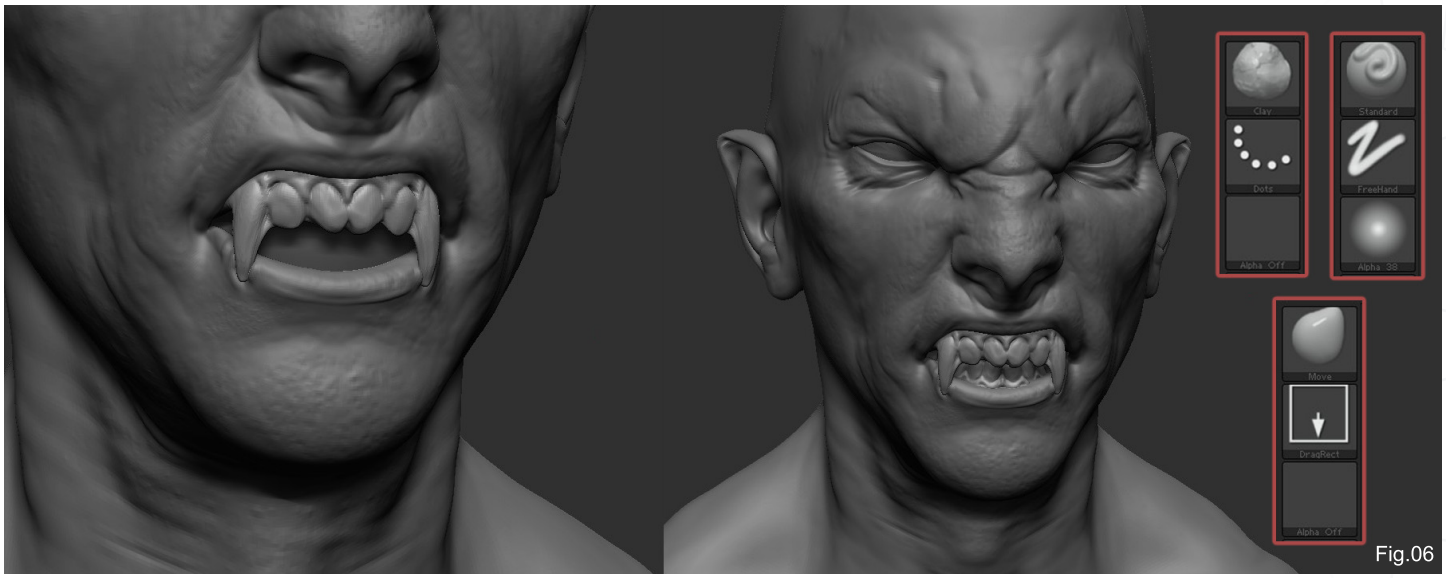


Fig.06

Fig.06a

sculpt the hair on his head into place, starting with the Clay Tubes brush. I kept repeating the process in order to refine the shape of the hair's segments and, using the Smooth tool, I gave a cleaner look to some areas. Once again, I select the Standard brush and sculpt some edges (**Fig.06c**). And here is the final result with ZBrush-sculpted hair (**Final.01**).

Fig.06b

Hair – an Alternative Approach

To create the hair in 3ds Max, you can either use the Hair and Fur function in Max, or you can try out the "Shave and a Haircut" plugin (http://www.joealter.com/). To use Hair and Fur in Max, I export the low-resolution mesh to Max and make a selection in areas where I want to create the hair. I then select Hair and Fur in the modification list and hair will be applied to the selections; however, it will look awkward because it won't have been combed at first. To push and pull the style into place, simply select some tools from the styling menu. Once the styling process is done you need to set the finished style and then go to the general parameters to change some values. This is important as the hair is going to be transformed into a mesh. So I decrease the hair count, increase the hair segment and increase the root and tip thickness. Then I just need to click on Hair > Mesh and export the mesh to ZBrush. Once back in ZBrush I can then add some divisions to smooth the hair.

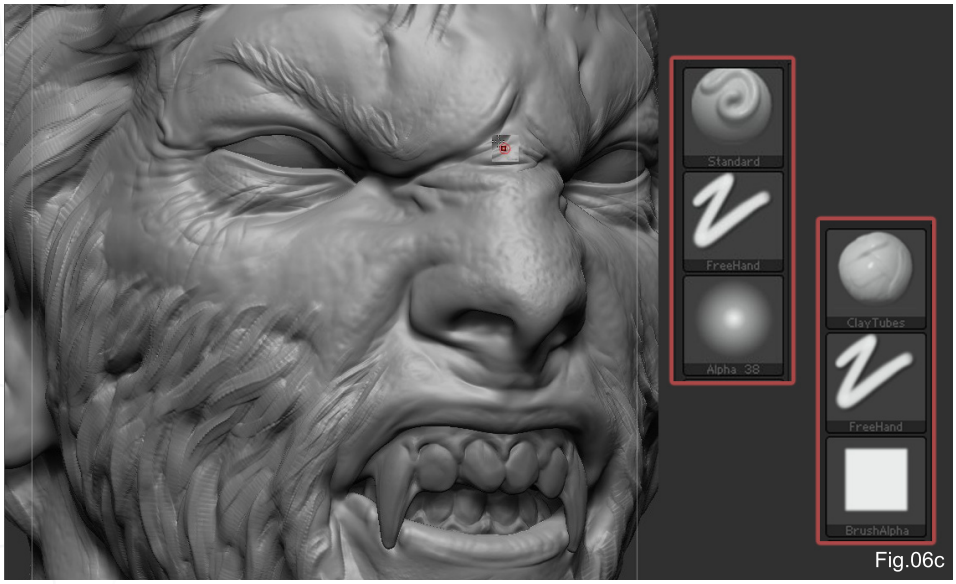


Fig.06c

The process of using the Shave and a Haircut plugin is very similar: The first thing I do is to export the low-resolution mesh to 3ds Max and make a selection of the areas where I would like to create hair (**Fig.07**). After I select hair and fur in the modification list, the hair will be applied onto the selection – but the hair will look weird because you will need to comb it! For this, simply push the hair into the style you want, using the styling menu, and play around with some of the tools to comb your hair into position. Once you've finished the styling process, you need to click on the Finish Styling button, and go to the general parameters and change some values. Once again, this is important because it will transform the hair into a mesh. So in the parameters I decrease the hair count, increase the hair segment and also increase the root and tip thickness. Now it only needs me to click on Hair > Mesh and export the mesh to ZBrush (**Fig.07**).

Once back in ZBrush, you need to import the hair mesh and add some divisions to smooth the hair (**Fig.08**). Here is the final result (**Final.02**).

Final.01

This is my last tutorial of this series – Rafael Grassetti will be finishing the tutorial series next month with his interpretation of Frankenstein's Monster. I hope I have helped you guys with these tutorials and I hope to see you again in future ones!

Note from the Editor:

Rafael has not covered texturing his character in this part due to the detailed sculpting involved; should you wish to texture your character, simply refer to our back issues featuring previous chapters of the ZBrush Character Creation series to learn some ZBrush texturing techniques. Rafael has also kindly provided us with 10 movies to accompany this – his final – chapter. Simply click on the Free Movies icon to download your movies. Rafael Grassetti will be with us next month to round up the series. We hope you've enjoyed the series so far!

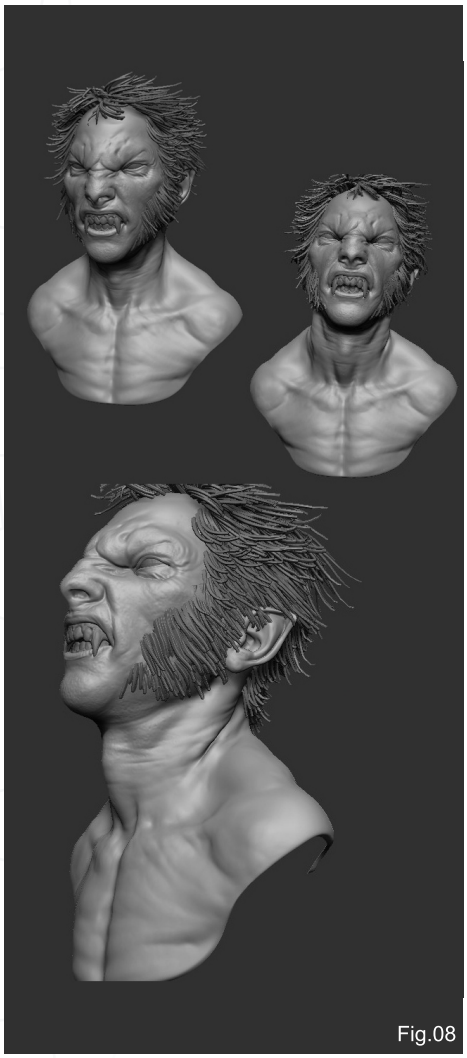


Fig.08

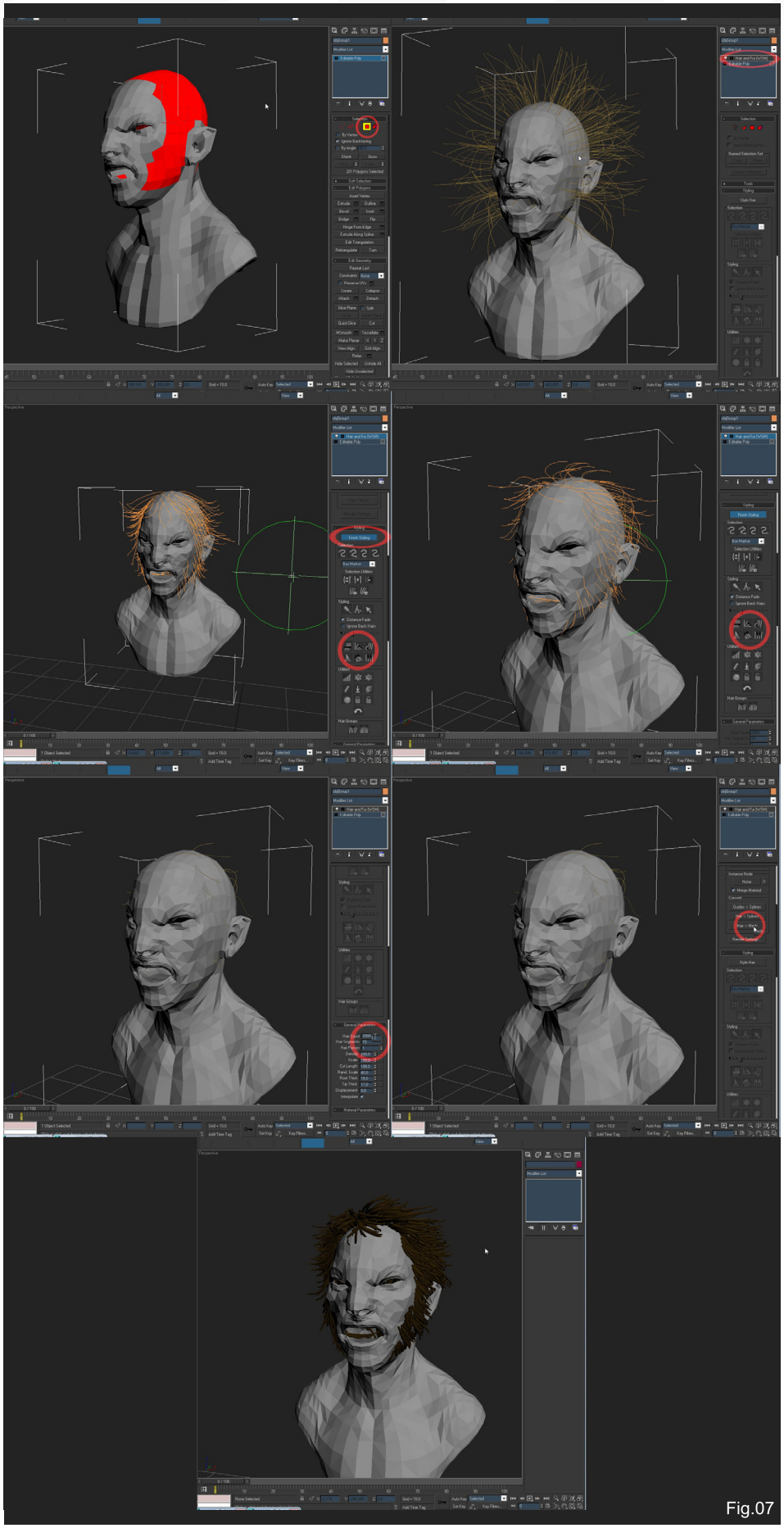


Fig.07

Rafael Ghencev

For more from this artist visit:

http://www.rafestuff.blogspot.com/

Or contact:

rghencev@yahoo.coms

Final.02

For professionals by professionals

Mainworks

Mainworks is a highly specialized cgi, artwork and postproduction service provider for industry, photographers and agencies. The optimal interaction between CGI and photography demands an extremely high surface quality and details of the 3D models. The modelling software we use has to be reliable and easy to use. PowerNurbs gives us all that and it integrates well into our cgi workflow. At Mainworks we are about cool pictures. Therefore only the best and most straightforward tools are good enough for us.

Mainworks only works with the best CG modeling tools. Power NURBS delivers.

Find out more about Mainworks at www.mainworks.de
To find out how nPowerSoftware can help your business visit us at www.npowersoftware.com

Photography backplate: Joris van Velzen (www.razum.com) cgi & postproduction: www.mainworks.de

N POWER SOFTWARE

TrueEyes

www.trueeyes.eu

3d scanned Real Photo Models for your 3d scenes

The right place for your 3d characters

"...PICKING UP MAX WAS THE BEST THING THAT'S EVER HAPPENED TO ME! I'M NOW FASCINATED BY ANY OBJECT, SHADOW, LIGHT, OR REFLECTION THAT SURROUNDS ME, AND EVERY TIME I SEE SOMETHING INTERESTING, I FIND MYSELF THINKING: CAN I DO THAT IN 3D?"

making of Daniel Radulescu

Modern Interior

Being fascinated by object, shadow, light and reflection, Daniel Radulescu shares how he has implemented these elements in his latest image

Modern Interior

Created In:

3D Studio Max & VRay

Introduction

Hello, my name is Daniel Radulescu. I was born in Romania, I'm 18 years old and I study visual arts at an art school in Brasov. I'm very interested in 2D concept art and especially in 3D graphics. I've been working in 3D Studio Max for over four years now and I can honestly say that picking up Max was the best thing that's ever happened to me! I'm now fascinated by any object, shadow, light, or reflection that surrounds me, and every time I see something interesting, I find myself thinking: Can I do that in 3D? Well, after many, many tests with lights, VRay and poly-modelling, I finally realised that yes, I can! For me, the world of computer graphics is somewhere I can finally release my imagination and turn my drawings into 3D, which is great – and, of course, a lot of fun!

Modelling

Everything in this image was modelled using the poly-modelling technique. I started from a plane or a cube, after which a chamfer was applied to all edges – and for some objects I also added meshsmooth with two or three iterations (**Fig.01**). I also used splines to make curved details on some objects. For the trees outside the window, I used OnyxTree (http://www.onyxtree.com).

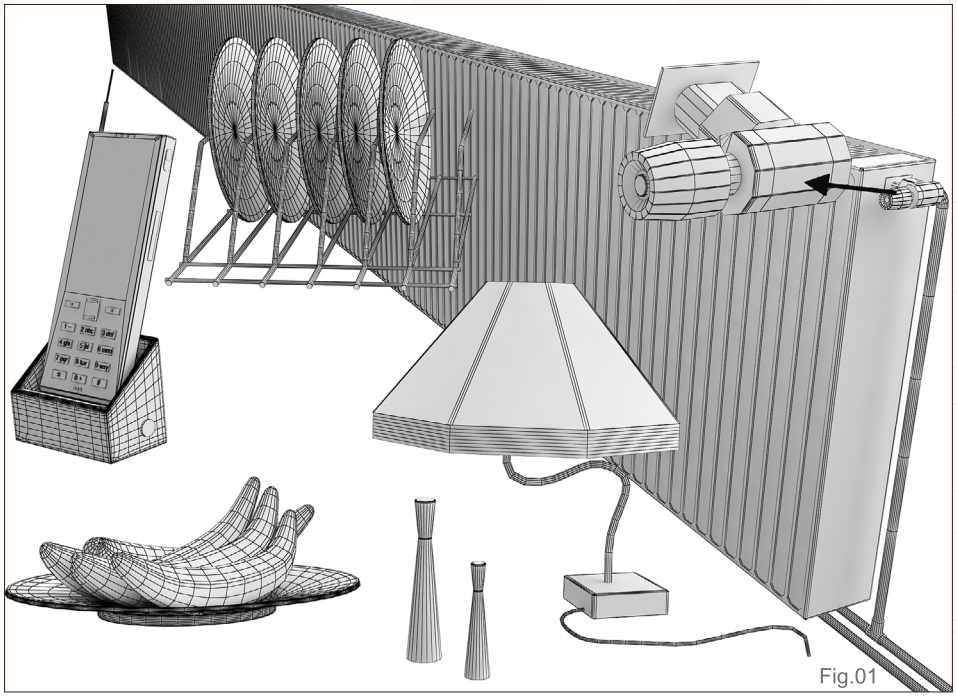


Fig.01

Materials & Textures

All the materials used in this scene were created with VRayMtl (**Fig.02 & Fig.03**), using the following settings:

Wood – Diffuse: wood.jpeg / Reflect: R: 64, G: 64, B: 64 / Refl. glossiness: 0.71 with Subdivs: 20 / Fresnel reflections: [active] / Max depth: 5 / BRDF: Phong / bump slot 30.0: woodbump.jpeg

Fig.02

Fig.03

Chrome – Diffuse: black / Reflect: white / Refl. glossiness: 0.9 with Subdivs: 8 / Refract: black / Glossiness: 1.0 with Subdivs: 10 / BRDF: Phong

Glass Brick – Diffuse: R: 248, G: 255, B: 243 / Reflect: R: 242, G: 242, B: 242 / Refl. glossiness: 0.49 with Subdivs 8 / Fresnel reflections: active / Refract: R: 241, G: 241, B:

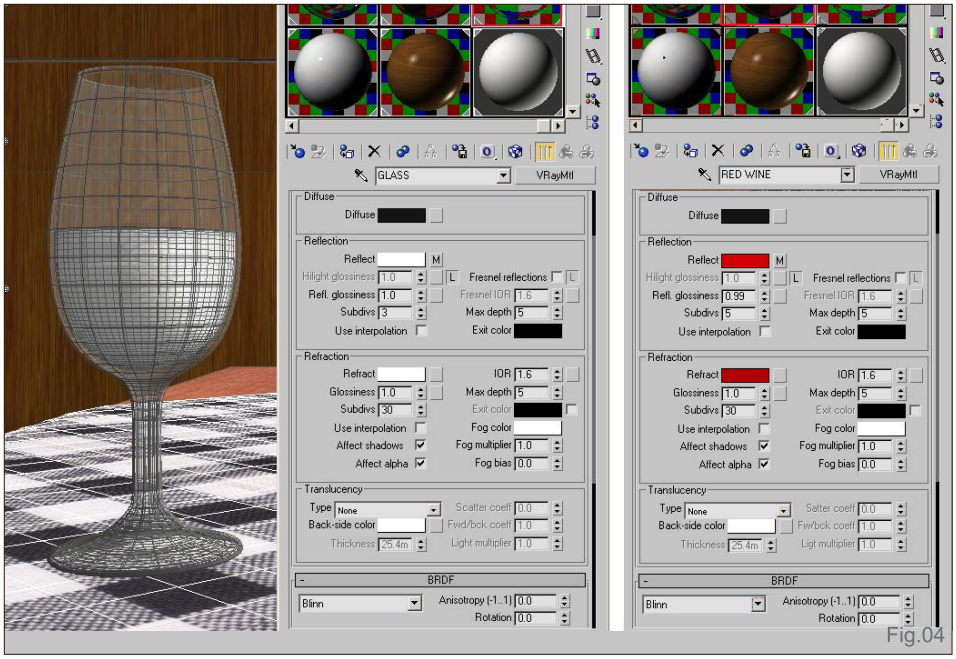


Fig.04

241 / Glossiness: 1.0 with Subdivs: 25 / Affect shadows: [active] / Affect alpha: [active] / BRDF: Phong

Leather – Diffuse: black / Reflect: R: 111, G: 111, B: 111 / Refl. glossiness: 0.87 with Subdivs: 8 / Fresnel reflections: [active] / Refract: black / Glossiness: 1.0 with Subdivs: 20 / BRDF: ward / bump slot 35.0: leatherbump.jpeg

All textures used were from www.cgtextures.com and the 3DTotal Textures DVDs (www.3dtotal.com/textures).

I used basic settings for the glass and wine (**Fig.04**):

Glass – Diffuse: black / Reflect: white with Subdivs: 3 / Falloff – type Fresnel / Refract: white with Subdivs 30 / tick the Affect shadows & Affect alpha boxes

Wine – I used almost the same settings as for the glass, but I changed the colour to red and changed Glossiness from Refract to something like 0.99, to give it just a little blur (you could of course make bubbles in there, too, to simulate the gas – a sphere with Glass effect)

LIGHTING

I used six VRay lights (each with a different shade of blue, from R: 240, G: 245, B: 250 to R: 220, G: 250, B: 250), each with multiplier: 7.0. Invisible, Affect diffuse and Affect specular were enabled, as well as subdivision: 20. For the sunlight I used a Target Direct light, with VRay shadows, a 2.3 multiplier and a colour of R: 255, G: 247 and B: 223. I also enabled Smooth Surface shadows and Area shadows in the VRay Shadows parameters. Besides that, I used Near Attenuation and Far Attenuation for shadows. For the background, I used a plane with VRayLightMtl set to pure white with multiplier: 10.0. These settings gave me a more realistic light in the room, especially at the windows, as well as some great reflection on the objects inside the scene (**Fig.05**).

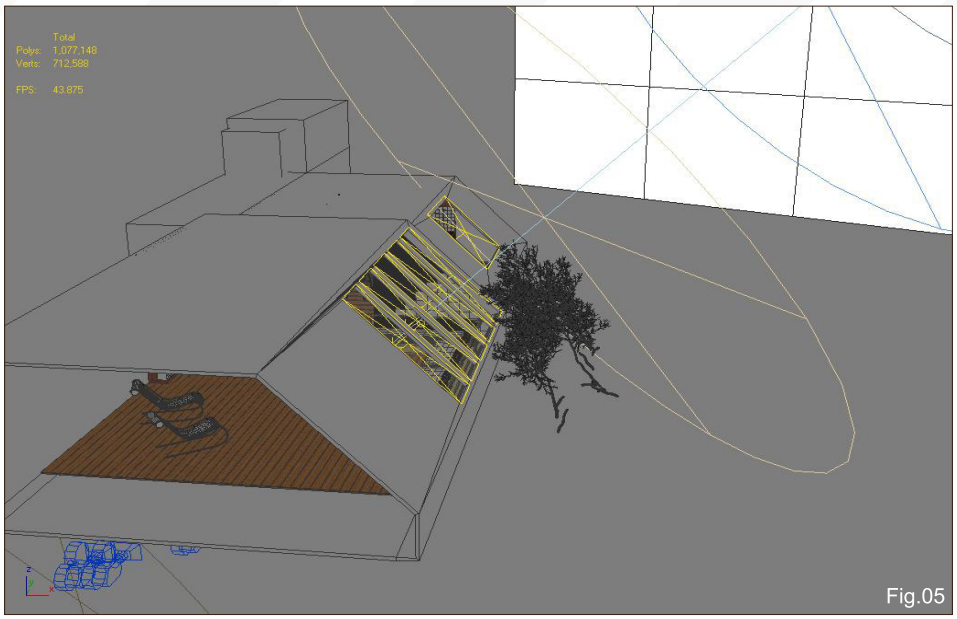


Fig.05

The VRay settings I used were pretty basic (**Fig.06 & Fig.07**):

VRay Global Switches – default lights were disabled

VRay Image Sampler – I used Adaptive subdivision and Catmull-Rom

GI engine – I used Irradiance map and Quasi-Monte Carlo

VRay Irradiance Map – Set up as: Low / HSph. subdivs: 50 / Sample lookup: Overlapping (very good/fast) / Show calc. phase: [active]

VRay Colour Mapping – Exponential type / Dark multiplier: 1.1 / Clamp output: [active]

VRay System – X: 32

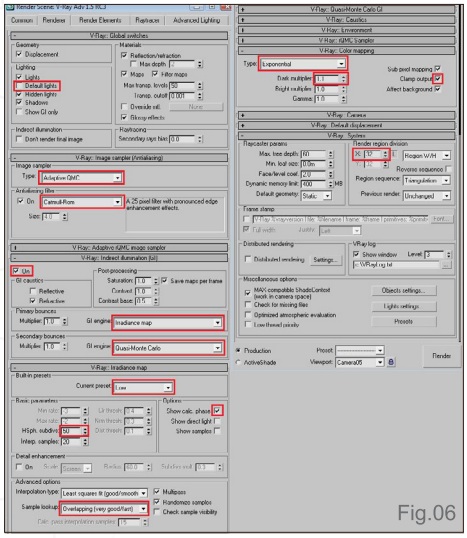


Fig.06

Fig.07

I hope that this article will be of use to you, and may offer you some useful information. My advice to anyone working with VRay is to make many tests with different types of lights and different settings – as many as possible. In my opinion, this is the best way to learn how to use and play with VRay.

I hope this was helpful for you; if you have any questions about my work (**Fig.08**), please feel free to e-mail me!

DANIEL RADULESCU

For more from this artist please contact:

happy_daniel_17@yahoo.com

© Daniel Radulescu

Fig.08

3DEXPORT

3DExport is a site where you can buy or sell own 3D models, textures, plugins and digital prints for using in any CG projects. Anyone is free to sign up for an account and begin trading or purchasing items. **3DExport** was launched in February 2004 year and now we one of the world's largest providers of high quality 3D content.

http://www.3dexport.com

"Every photographer's challenge is to show the intention behind the content they capture. In this piece, I tried to be precise and aimed for a fine layout setup where I could apply the rules of real photography..."

SAY CHEESE!!

MAKING OF BY VAIBHAV SHAH

Being inspired by this childhood memories of aquariums and always being drawn to the dirtier tank, Vaibhav Shah shares with us how he went about creating this wonderful image using Maya, ZBrush and Photoshop.

SAY CHEESE !!

Created In:

Maya, ZBrush, Mental Ray, Photoshop & headus UVLayout

Introduction

I was so inspired by water tanks in childhood; whenever I visited aquariums, I always found myself attracted to that one tank that was dirtier than the rest and in which a poor fish was trying to live. I always spent time observing the movement of water and its whirling effects. So I approached this project with the goal of creating a cool, dirty, flooded bathroom, in which a fish is trying to survive, in-between some leaking water pipes. Even leaking pipes blow air into water, which make sweet bubbles! This concept clicked straight away, and I started scribbling down some notes for the process ahead of me.

I decided that I wanted to make the image in the style of a portrait photograph – the kind that you mount on your wall. I was sure from the beginning about the concept and so I was ready to get to work!

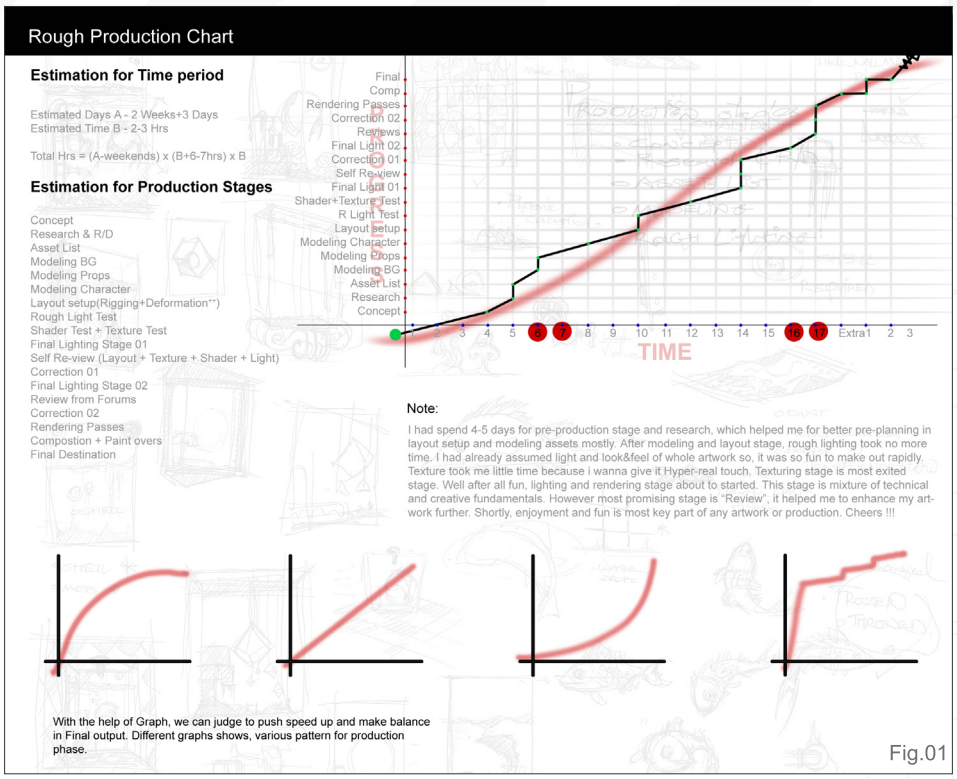


Fig.01

Setting the Foundation

Before making any moves, I prefer to always start by making a little production chart for myself with a guideline for the project, which can help me to focus my time between personal and office work deadlines (**Fig.01**). Usually I spend two or three hours on my personal work each day. This is why I assumed I'd spend almost two weeks on the "Say Cheese!!" piece. I then started to make a rough list of the production stages that I thought would be involved in the creation of the entire scene, estimating the time as perfectly as possible.

After my rough calculations, I started to make concept drawings and considered adding lots of objects to the scene (**Fig.02**). I was thinking about adding more than two fish at one point, but it made the scene much too complex and unbalanced. I decided to spend more time on the concept design part than originally planned, in order to forge a clean, concise idea. I find that having a good concept gives me a greater understanding of the composition and camera view required in the 3D scene.

Every photographer's challenge is to show the intention behind the content they capture. In this piece, I tried to be precise and aimed for a fine layout setup where I could apply the rules of real

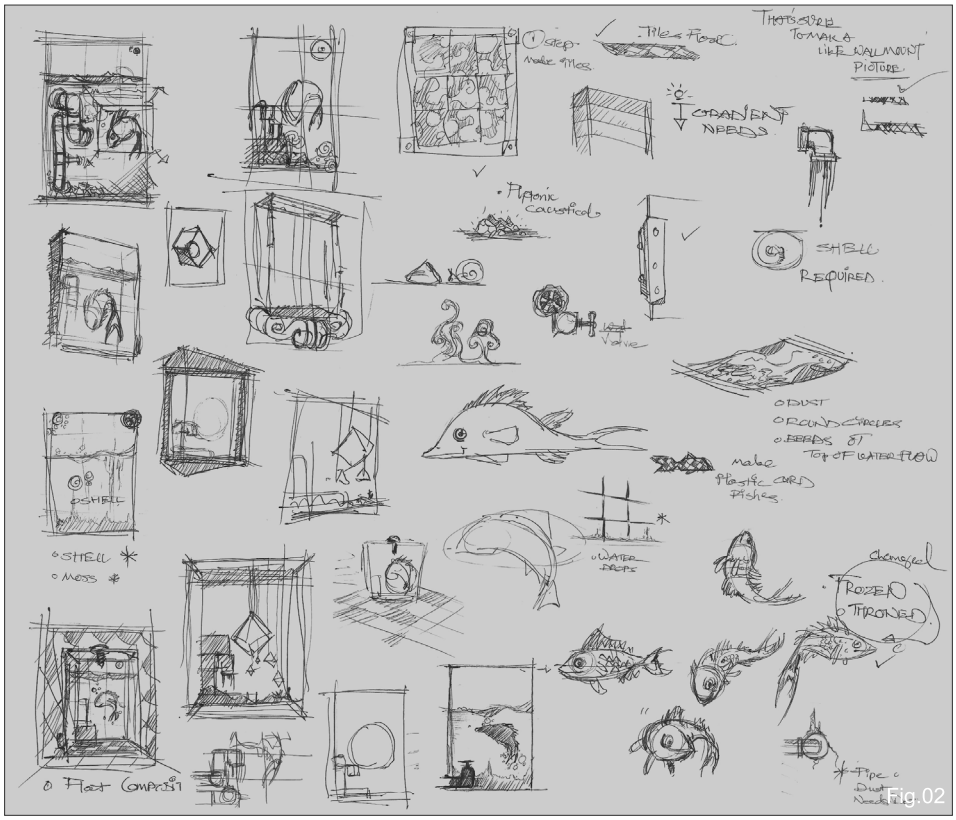


Fig.02

photography to my 3D work. After coming up with a rough concept, I started to make an asset list of props, background elements, and rigged characters using my production guideline to help me in this part of the process.

References

After the concept phase, I really needed real life references to study the water effects, bubbles, gravel, dirty tiles – and more importantly the fish. I gathered all possible references from the Internet and even re-used some from my personal reference library. I found some very good references for the fish's eyes, and these drew me towards experimenting with them. The key to any character art is to understand the entire anatomy of your subject first and foremost. I therefore researched the anatomy of fish in order to better understand them, and thus be able to model and texture my character.

Modelling Incorporated with Dynamics

During the modelling stage, tricks and shortcuts are a major weapon to reach deadlines and keep to your timeline. I really love the modelling phase!

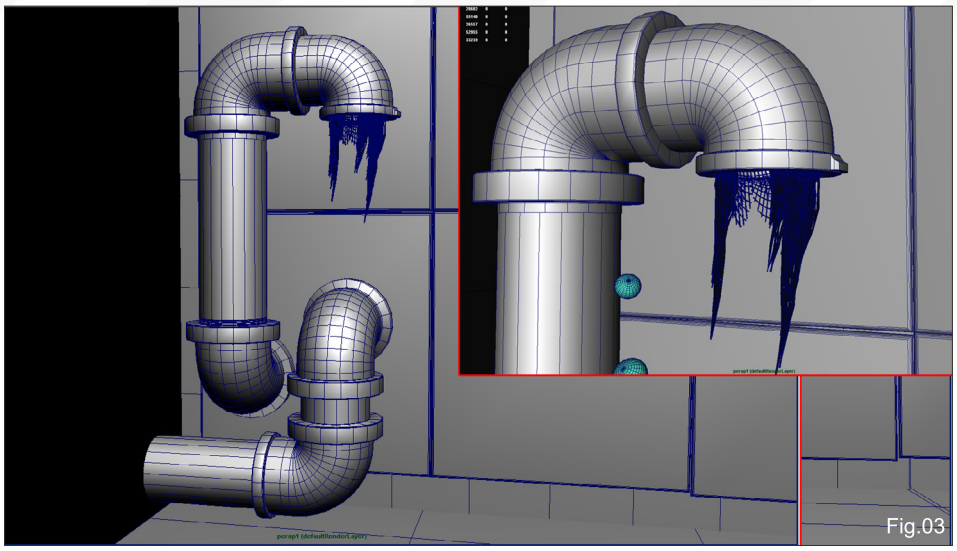


Fig.03

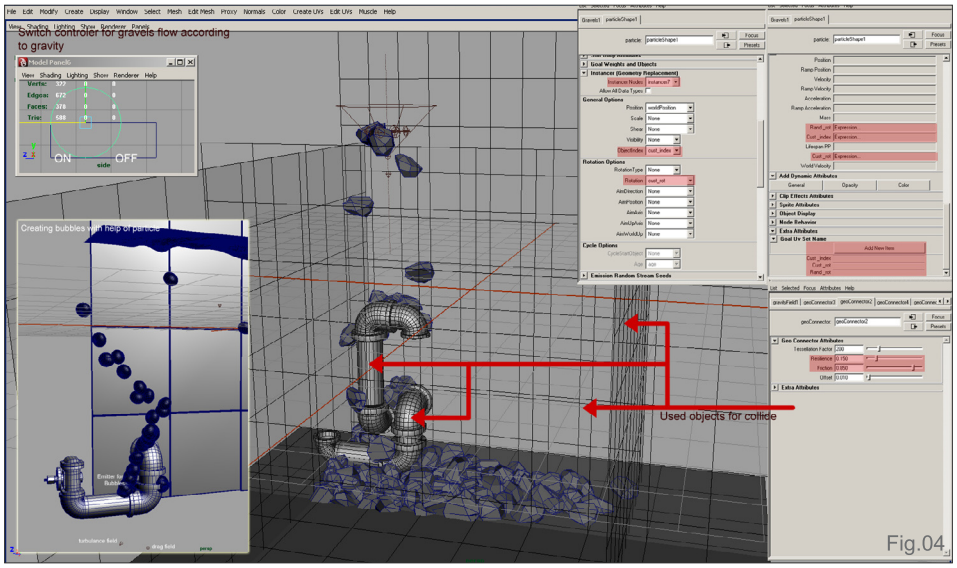


Fig.04

All models were created in Maya, and minor tweaks were done in ZBrush. According to my modelling list, I made the props first, because the background setup needed to be given priority. I made very simple and low poly tiles and the floor in a short period of time. Then, as per my references, I modelled the pipes as accurately as possible, keeping things simple according to logic and the desired composition (**Fig.03**).

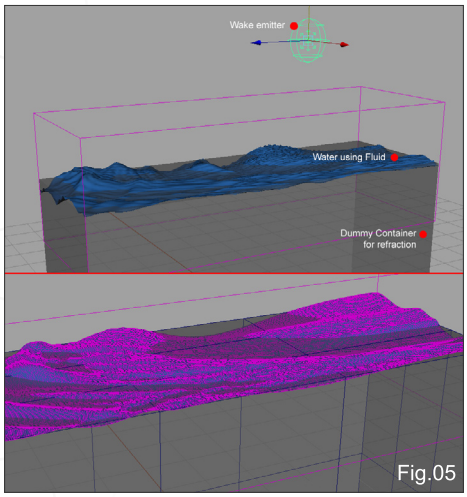


Fig.05

After completing the modelling of the basic scene I then decided to make the gravel, which was tricky! I decided to disperse it through dynamics, and so made a small emitter, "particle setup" which could help me later on. With the collision detection of each object calculated (pipes, floor and tiles), gravel was placed perfectly across the floor and even along the pipe. To produce a natural effect, I used a Random Transformation (rotate, scale) script for the gravel, and had a result in just a few minutes (**Fig.04**).

The water level needed the right amount of attention to make it look amazing, so I made a pond fluid and a wake emitter for the waves. Once I was satisfied with the volume and level of water I converted the fluid into polygons for the purpose of Mental Ray shading (**Fig.05**).

Bubbles were made using the same process of dynamics; I simply put the emitter into the leaking pipe connection. I used an instance of particle dynamics to work out instanced geometries. With the help of mathematical calculations in the instance properties, the bubbles were a little skewed, pressed, and then randomly rotated and scaled properly (see **Fig.04**). Dynamics help greatly in situations such as this. As for droplets on the tiles and bubbles for the water level, I used a paint effect

brush with a pre-defined visor brush, called "water droplets" (dynamics bubbles, paint-FX).

It was then time to make the leading star of the scene: a common tropical fish. I used a few references to understand its anatomy and skin structure, as already mentioned. I also loaded a reference image into the front camera for a better guideline of proportions. First of all, I made a very basic block-out stage of the fish model (**Fig.06**), and then took it into ZBrush for some minor tweaking and proportion checks.

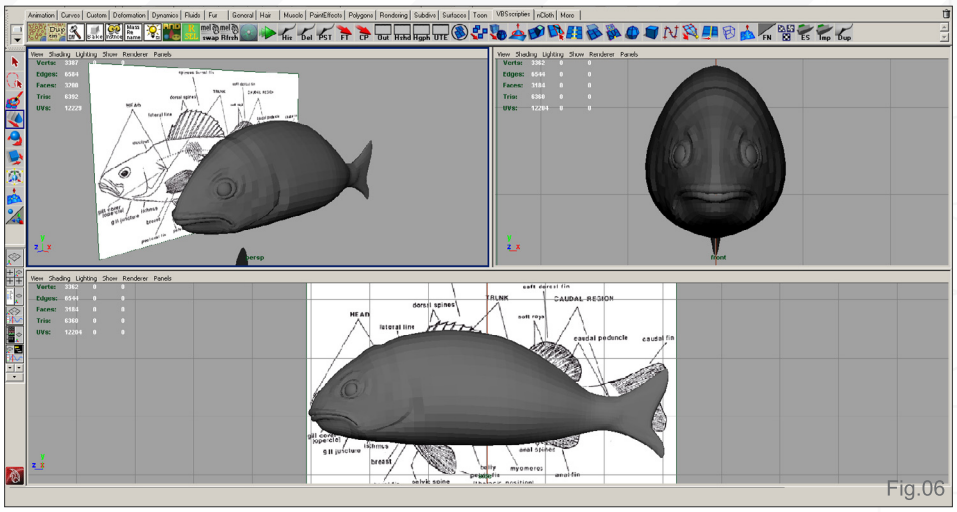


Fig.06

For better results in ZBrush, I paid attention to the topology according to areas where details were needed. Topology and flow really matters when characters are going to be animated, with the support of all types of maps, such as displacement, normal, bump, cavity, etc. Before starting sculpting I took UV's of the exported ZBrush fish object in the standalone UV Layout application (**Fig.07**).

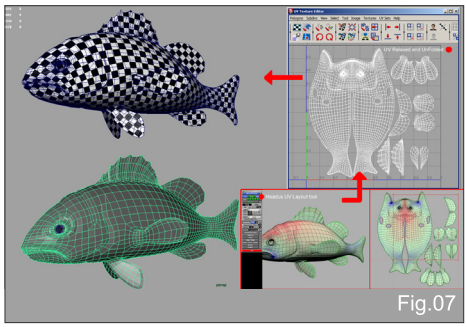


Fig.07

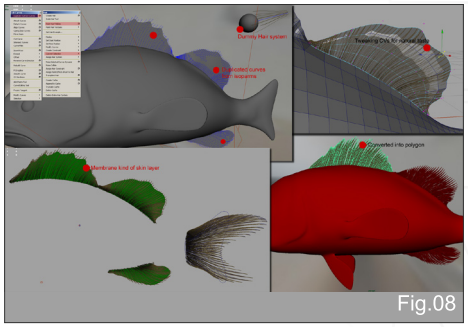


Fig.08

For the upper, lower and tail fins I used the hair system, with the help of NURBS. The process was very manual, but it gave me the necessary soft rays – or dorsal spines – in the perfect places. I had to hold Shift and make numerous isoparms and then duplicate the curves and convert them into hair and follicles with the "convert curves into hair-system" function (**Fig.08**). Once again, I converted the hair into polygon geometry for better optimization, and then exported the fish model for more detailed sculpting in ZBrush.

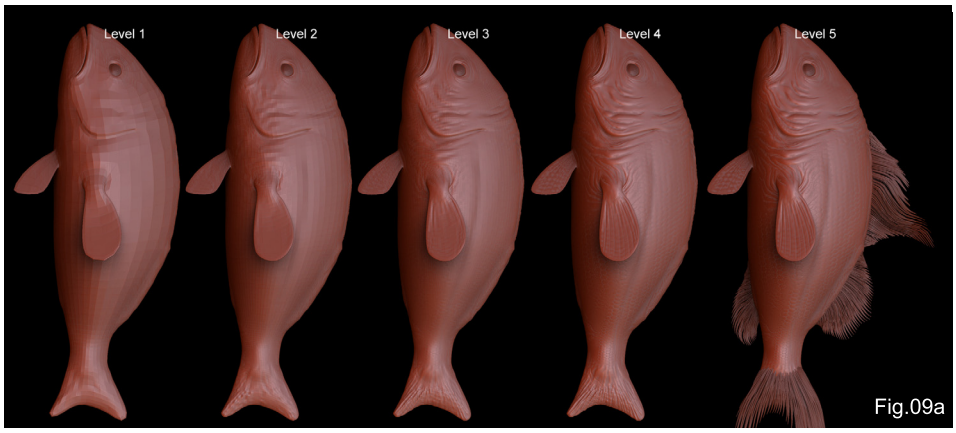


Fig.09a

Fig.09b

Sculpting

Well, this was the fun packed stage of the project! However we should be aware of some prerequisite steps before we move into ZBrush at this stage, such as having clean topology, clean UV's (if you want to use any maps), equal spacing of quads, least number of tri's, and so on.

I decided to add as much detail as possible to my fish in Maya. I started sculpting with the Standard brush and Inflat brush, to catch up with basic details in the first level of subdivision. I kept adding more detail, particularly on the fins, gill cover, back fin, soft dorsal fin and caudal fin area within the second and third level of subdivision (**Fig.09a & Fig.09b**).

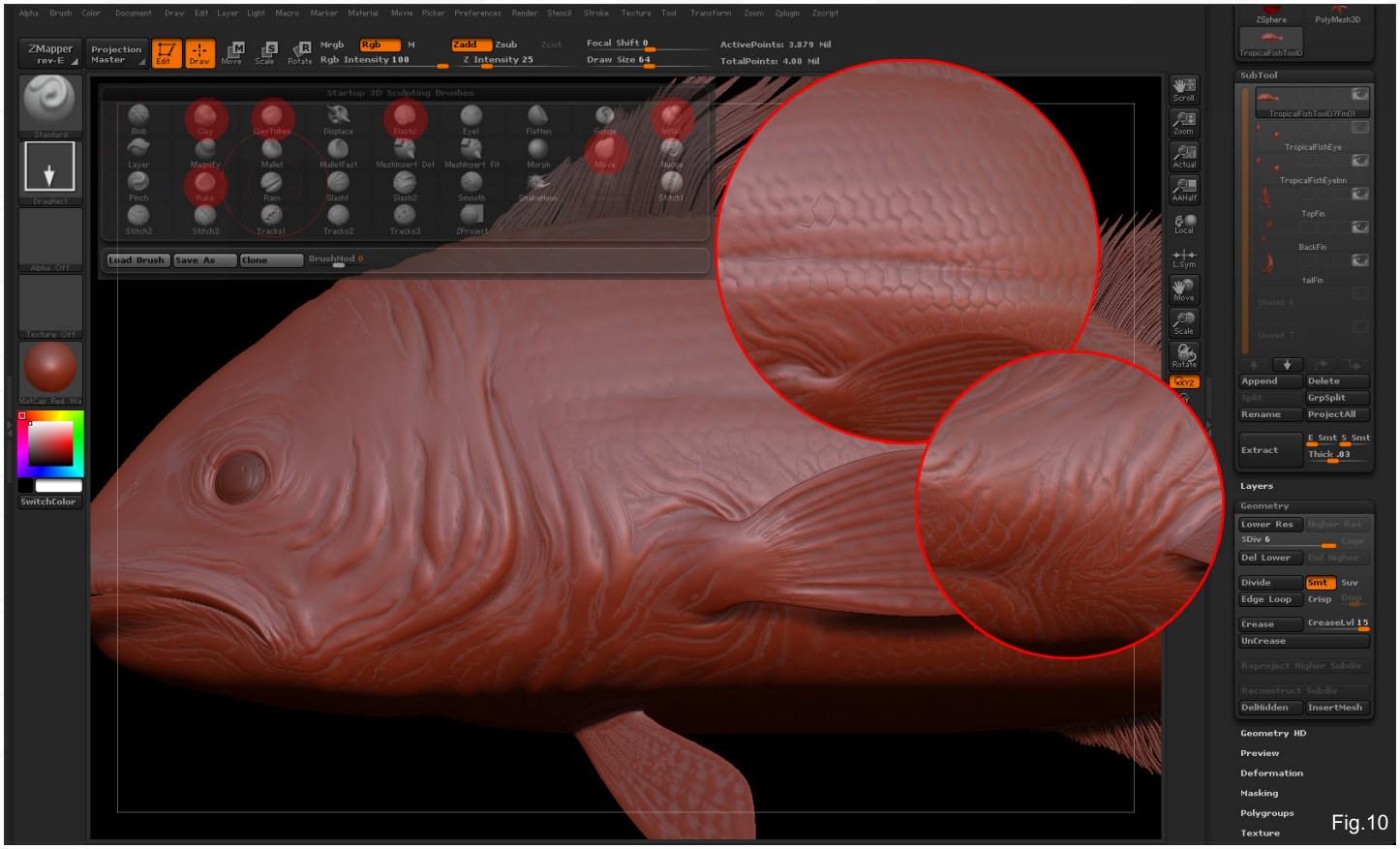


Fig.10

I usually shuffle from each level alternately. Once I was satisfied with the level of detail, I took the fish into ZBrush to sculpt the final areas such as creases, imperfections and the scaled pattern. I also used the layers option for more detail on the skin pattern, with the help of an alpha brush.

After happily sculpting, I decided to use masking with cavity and enhanced details (**Fig.10**). Once that was done, it was then time for posing, so I took it to the lowest level and exported it to Maya where I rigged it, and then once again exported it back to ZBrush. I'd already decided on my camera angle, so I didn't need to concentrate on asymmetrical shape.

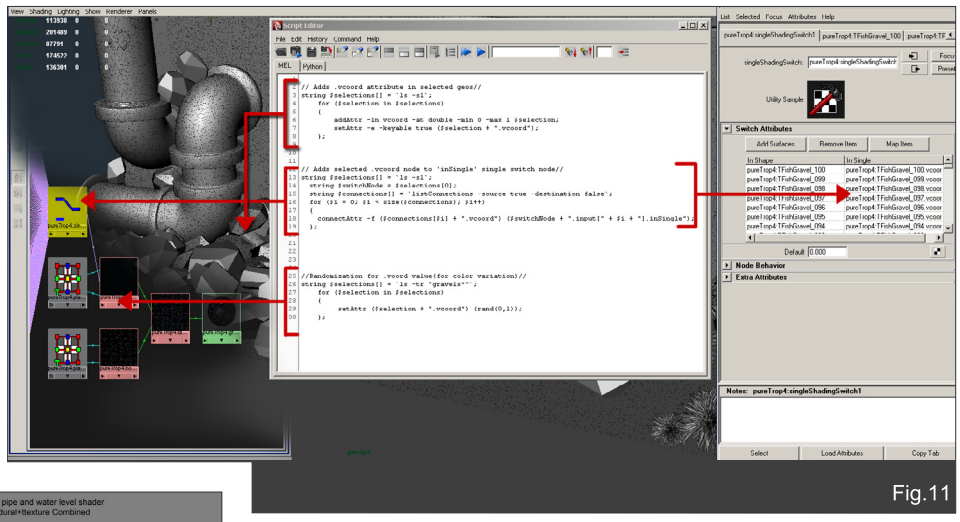


Fig.11

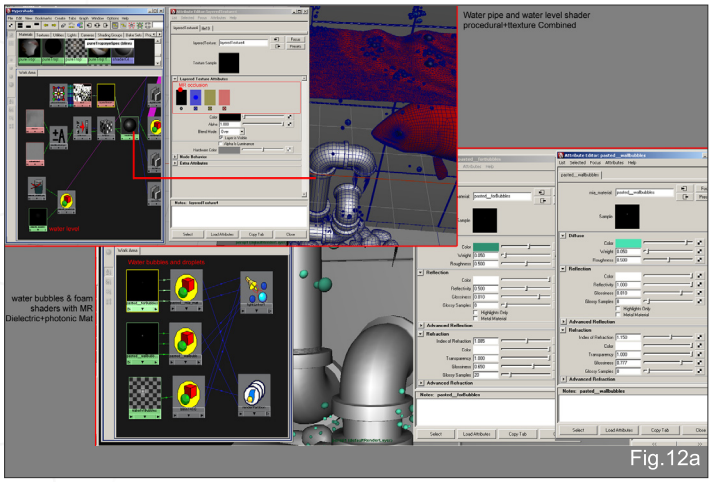


Fig.12a

TEXTURING & SHADING

Texturing and shading is one of the most important stages in the creation of a 3D artwork – the entire look and feel depends on it. I assumed major objects would be shaded with procedural shaders, so I used a very basic single switch node for the gravel, and used three little scripts for randomisation. I assigned a user defined attribute "vcoord" to N selected objects using script. I connected geometries with selected single switch

nodes in hypershade using script. I also randomised all selected geometries attributed with “vcoord” using script (**Fig.11**).

For the pipes, I felt inspired by old copper with that moss-covered effect. I encountered a few difficulties when I was rendering the pipe shader; I found some strange dullness in the overall colour because of the “proxy box” caustics photons. I solved it by tweaking the base colour and transparency in the layered texture nodes.

As far as the bubbles were concerned, I made two different shaders – one for surface bubbles and another for water bubbles. I used different Mental Ray dielectric and DGS materials for the bubbles. I discovered a problem with the water droplets on the tiles: they were given a highly intensive glow because the key photonic light was linked to them. Refraction and reflection was tricky to handle. Basic properties were used for the various water density, bubble and droplet properties (**Fig.12a**).

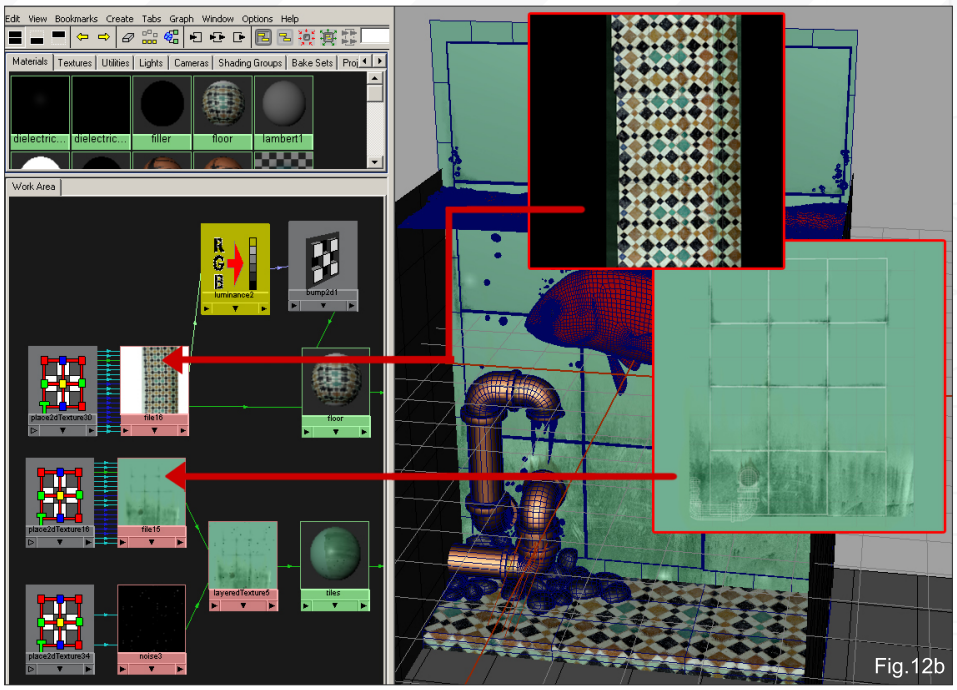


Fig.12b

Fig.13b

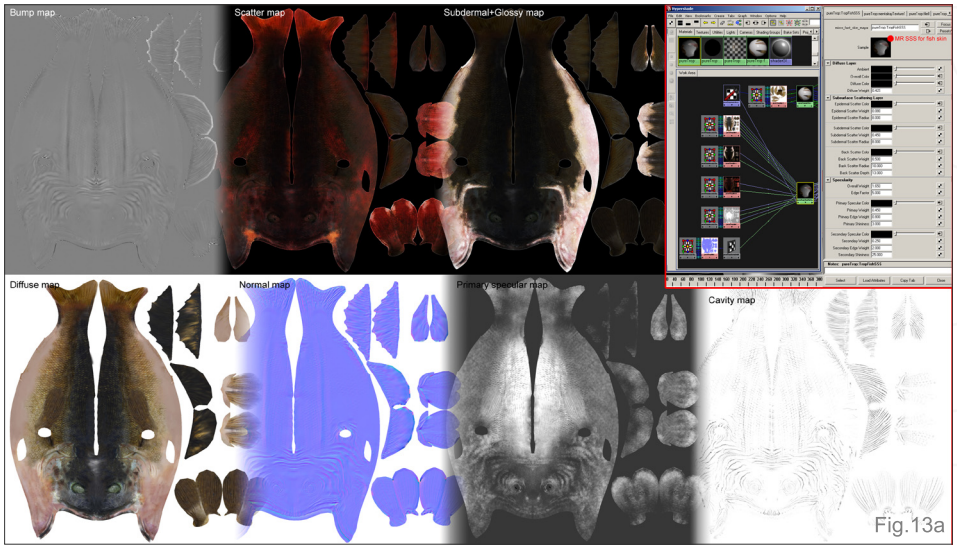


Fig.13a

I used ZBrush for the fish and tile texturing; in particular I used the ZAppLink plug-in for easy texturing, which can be interlinked with Photoshop and ZBrush (and vice versa) (**Fig.12b**).

I made specular, reflection, and all three skin layer maps from ZBrush for the MR SSS shader in Maya. I noticed how glossy fish skin is, so I needed to make a glossy map to represent this. The SSS shader’s specular attribute had quite detailed options in order to generate the skin as realistically as possible (**Fig.13a & Fig.13b**).

Lighting & Rendering

I used Mental Ray and Maya procedural shaders for the whole scene, which gave me very nice results. I used a basic three light setup – photonic key, fill and rim light. I used a key photonic light for the whole layout and the other two lights were just linked to the fish because of the back scatter effect.

I used GI photons for better results in the scene. Because of Mental Ray's dielectric shader and DGS refracted and reflection values, I also used the caustics photons. I was excited by the double-bounced shadow layer when light reflected through the main photonic Light – it gave me the real water shadow effect that I had desired (**Fig.14**).

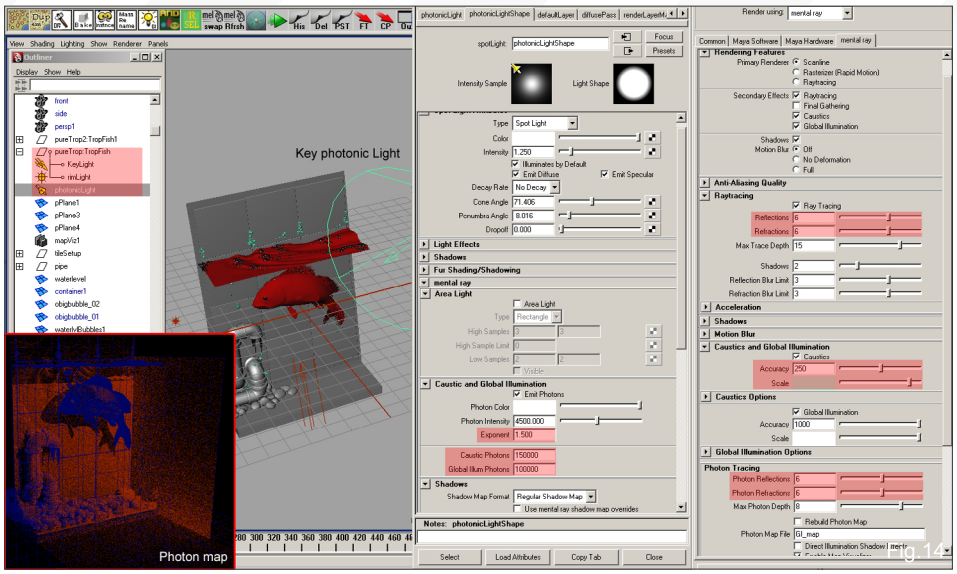


Fig.14

I made a proxy/dummy box under the water level to the floor with refracted glass and assigned a transparent shader to it. This was just for the refracted effect. Overall, I tried to make the lighting setup formal and simple, but in some areas that was a little tricky.

I faced a challenge when rendering the occlusion pass, especially where refraction appears in the underwater portion. A simple solution was to manually assign overrides in each light property and shader (**Fig.15**); i.e. in the occlusion pass, I made an AO shader – the proxy box had the same refracted shader, but I assigned an AO shader to all other objects apart from "proxy box".

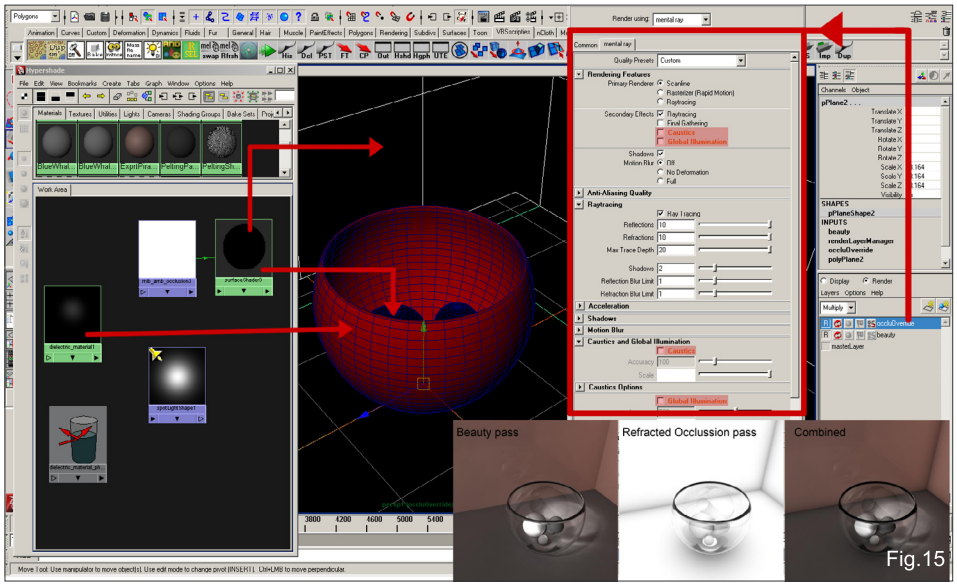


Fig.15

I always prefer to review my work before I finish it, so when I almost had the final rendered image, I made some self-corrections and reviews of the image (**Fig.16**). According to my own self analysis, I found some minor creative corrections and changes. To fix them, I decided to go back to the texturing and layout stage, where I rapidly changed the layout according to my reviewed corrections. I then came up with a very appealing composition (**Fig.17**). Production can suffer if you find some problems, either technical or creative, after rendering passes. This is why I find the self-review and correction stage to be very reliable for any production.

Fig.16

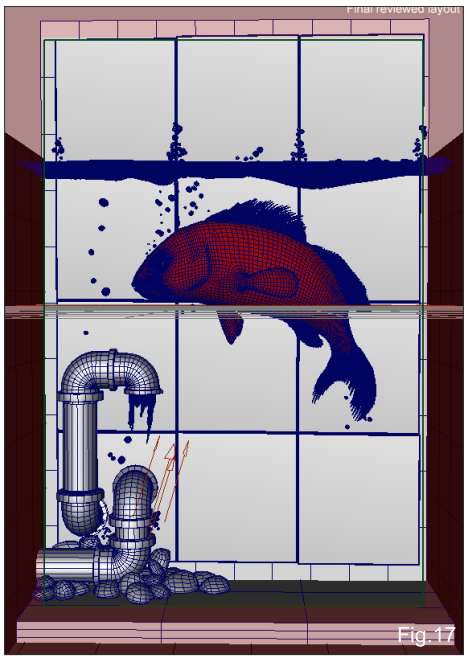


Fig.17

Composition

After rendering each pass separately, I took all of them into Photoshop and started to tweak the values according to the subject. I chose to use Photoshop for compositing because I wanted to make the image like a standalone photo – one

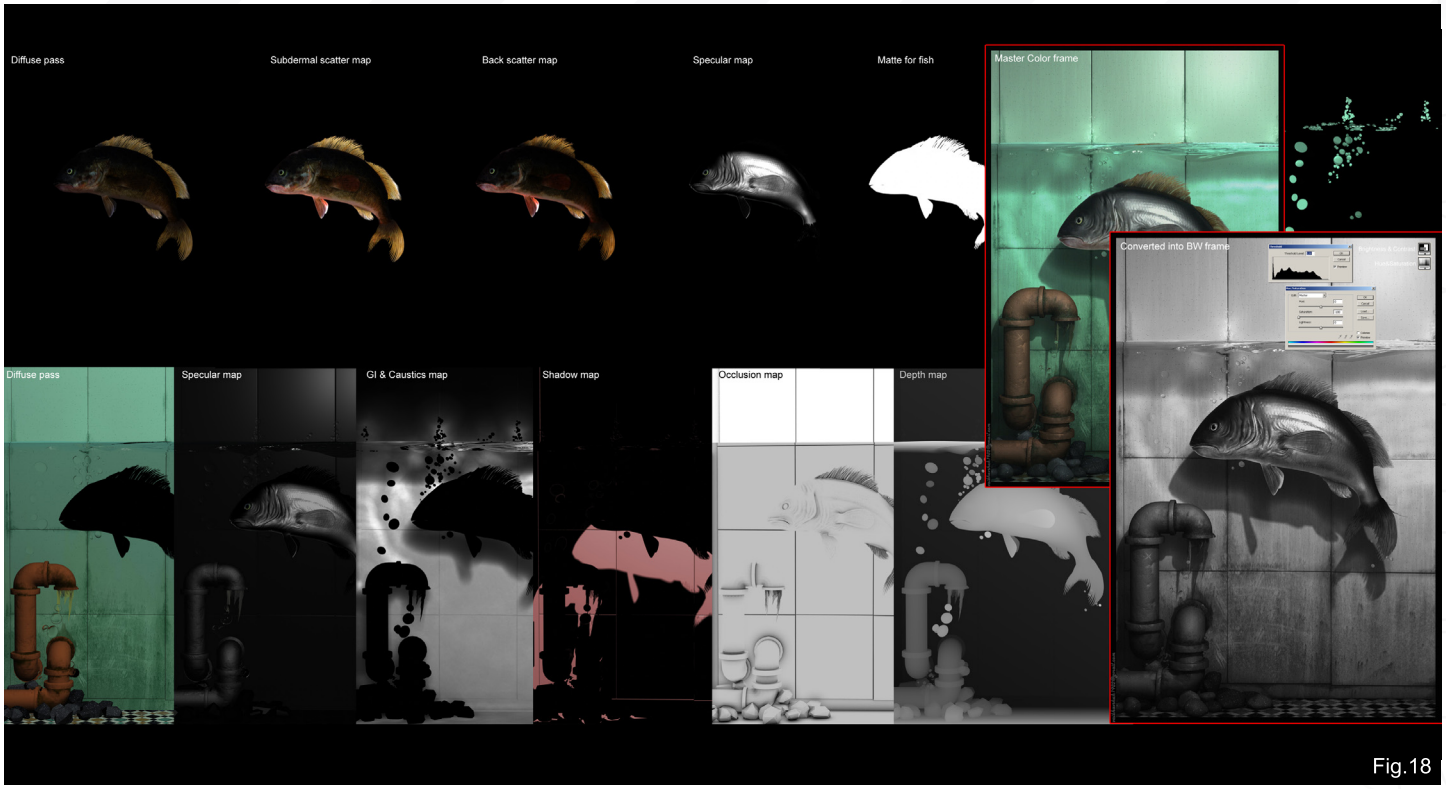


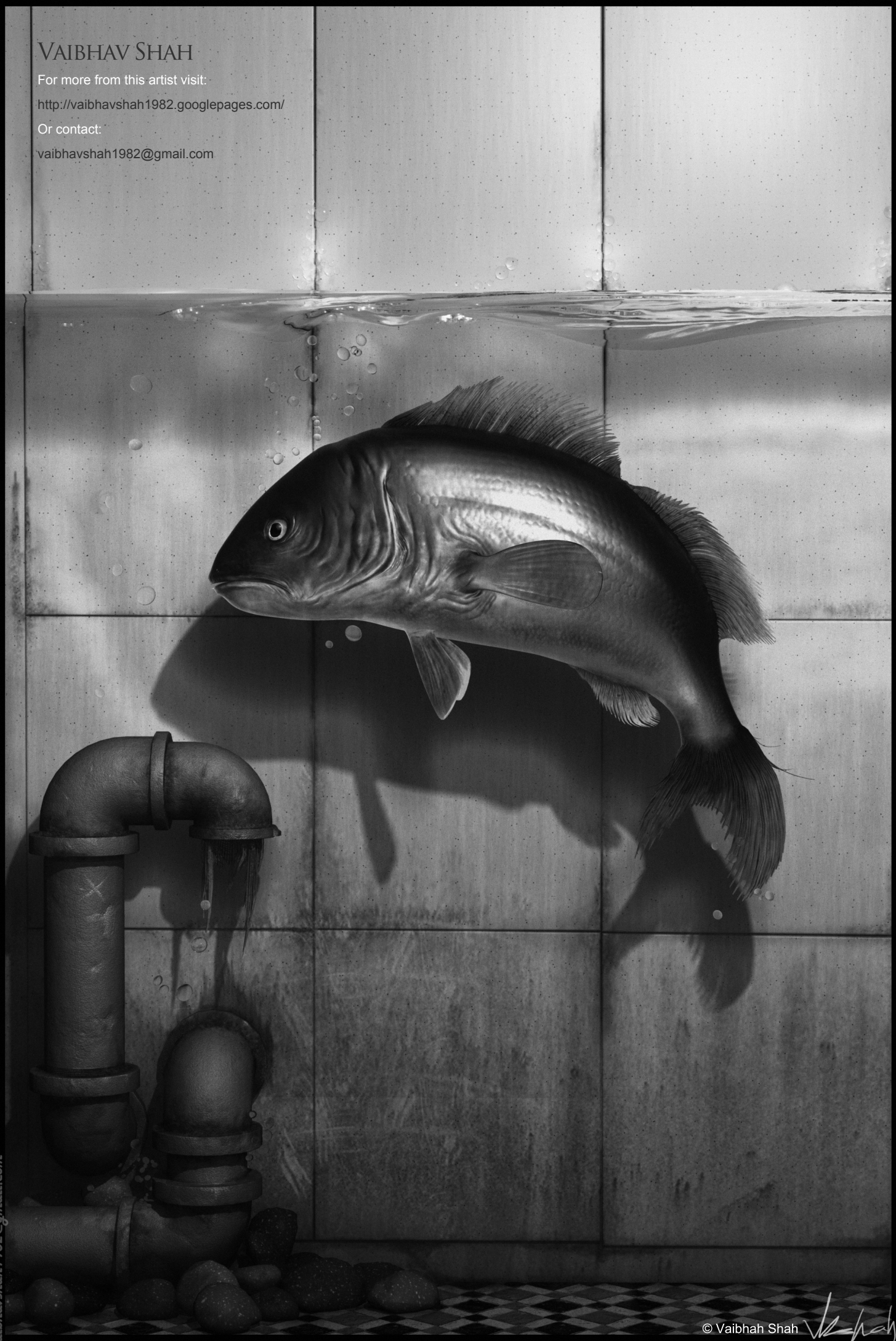
Fig.18

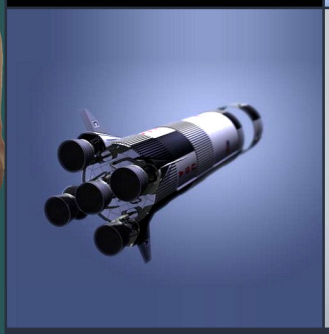
Post Render Shot.01

that you might find in a frame. In the coloured scene, the threshold colour histogram was appropriately curved and balanced, so it was easy to convert it to black and white without losing any minor details. I had always imagined a simple monochromatic mood, but I also had some curiosity about achieving a real fish skin and water effect in colour, as well. Later on, I did some paint-over work to highlight the skin. I also went back and made some other basic render passes for the final picture (**Fig.18**).

Conclusion

I hope this "Making Of" article has been informative and interesting for you. It was a lot of fun to create! If you have any questions at all, please feel free to contact me. Thanks for reading!

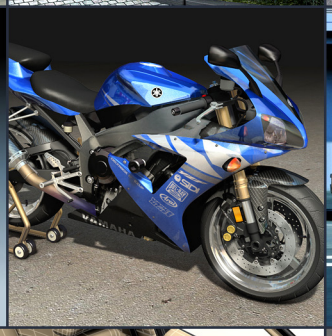

VAIBHAV SHAH
For more from this artist visit:
http://vaibhavshah1982.googlepages.com/
Or contact:
vaibhavshah1982@gmail.com
vaibhavshah1982@gmail.com
© Vaibhah Shah

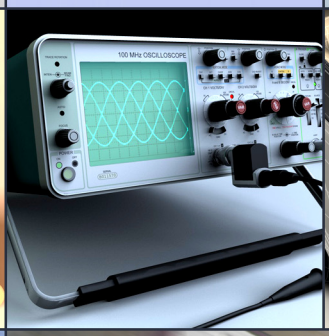


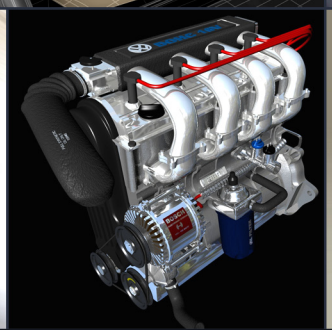
3d02.COM

The Finest 3d Model Store

3d02.com. Commonly known as a high quality 3d model store, one of the premier stores of digital assets offering ready to use CG 3d models, and an open platform allowing artists to publish and sell their 3d models online







3DTotal presents the new issue of 2dartist magazine: a downloadable monthly magazine for concept art, digital & matte painting for only £2.75 (approx $3.78 - €2.93)

visit **www.2dartistmag.com** to download the free 'lite' issue, the full issue, subscription offers and to purchase back issues.

ONLY

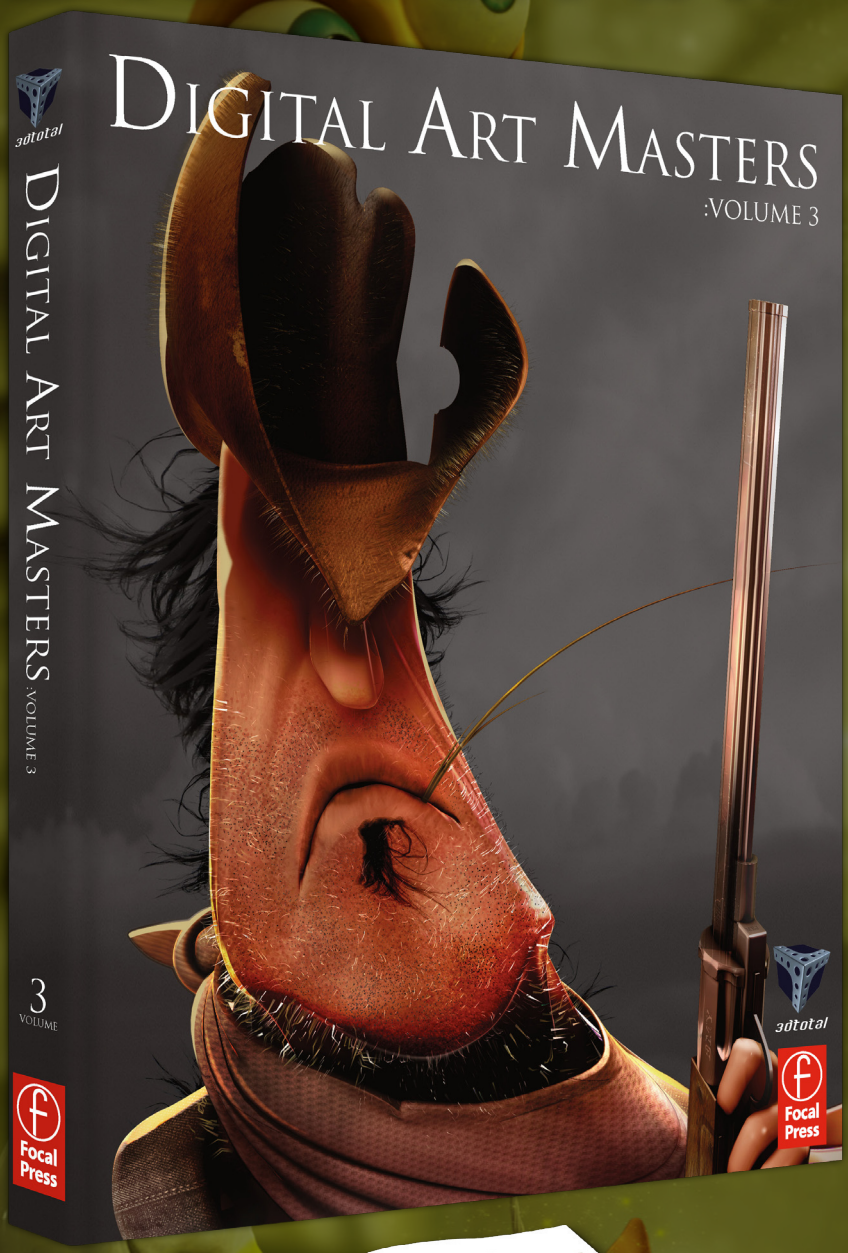
Digital Art Masters
Volume 3

With the release of 3DTotal's book, *Digital Art Masters: Volume 3,* we have some exclusive chapters for you...

This book is more than just an artwork book. Not only does it feature full-colour, full-page images, but each artist has given a detailed description, in their own words, of the creation process behind each piece of published artwork. And they've done it especially for this book!

This month we feature:

"Priceless Friends"
by Soner Yurtseven



The following shots of the “Priceless Friends” book pages are featured here in full-resolution and can be read by zooming in...

Priceless Friends

By Y. Soner Yurtseven

Concept

This image was my entry for the CGSociety Challenge, “Strange Behavior”. In the beginning, a story was needed in order to work on it. So my dear fiancée, Melek, and I started thinking about a story to create creatures for...

We composed a story about an unusual, lonely fairy who was trying to find friends in an ancient, forgotten, “knick-knack” store, and how he used his ability to create

Fig.01

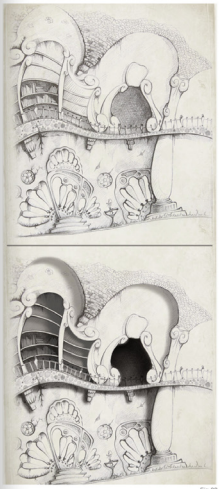


Fig.02

his own friends from the bibelots in the store. But, by mistake, he accidentally brought a bee to life, which was the scariest of all creatures for the fairy!

After the story was written, everything was ready for designing the characters and the environment. In the design process, the main points that I focused on were having both visual totality and individual differences in every design. The environment also had to be unique, because I thought it would be the best way of describing this imaginary world. I made various sketches of characters to transfer them from 2D to 3D in the best way possible (**Fig.01–02**).

The Story

In this ancient, forgotten, knick-knack store, there were “twangs”, “clinks” and “clacks” which started after many long, silent years. A weird and unexpected visitor was there, too. The unexpected visitor was an unusual fairy which looked like he was just trying to find something he had lost. The fairy was trying to find friends whom he had neither lost nor found. But, wherever he looked, he couldn’t find any living thing in this place! The place was just full of bibelots and knick-knacks with price tags on them. However, he wanted to have friends more than anything else, so he decided to use his ability, an ability enabling him to do whatever he wishes with his magic dust... So, he started

Fig.03

3DCreative readers can purchase

Digital Art Masters: Volume 1, 2 & 3 with a special **20% Discount**

20% OFF

To claim your discount simply purchase here:

http://www.3dtotal.com/books/

(Note: if a security dialogue box appears, tick ‘Remember’, then click ‘Allow’)

hanging around, looking around and kicking around, choosing the bibelots that he liked the most in all those found around the store. Just at that moment, all the twangs, clinks and clacks started! After their lifeless years, all the bibelots that the fairy had chosen began to come alive, gradually, under a magical, dusty rain. The bibelots were all confused about what was happening to them when they came to life. The weird fairy was also confused because one bibelot which had come to life had done so by accident! It was the bee, one of the scariest creatures for the fairy. But, maybe this time he could be a friend of a bee...

Modeling and Rigging

Everything – the characters, environment and other objects – was modeled in Maya. While I was modeling the characters and the environment, I got references from their concept sketches (**Fig.03**). I tried to maintain the “toon” style of the sketches as much as possible during the modeling process. The sketching milestone is one of the most important points of the work in progress. With a well-designed sketch, modeling the design will be more successful! The necessity for a sketch is unavoidable for the modeling stage (**Fig.04**). A part of the success of the modeling belongs to well-made sketches.

At first, I thought about showing the bibelots in the scene as if they’d been broken, with the creatures – the bibelots themselves – coming to life from inside each of the broken pieces... But then I decided not to have broken pieces, just the bibelots coming to life, along with just one lifeless bibelot, for which the dog/horse seemed convenient.

As seen from the sketches, there are no horns on the dog/horse. But, while I was modeling it, I made a horn for it so that it became a weird and funny unicorn. Also, in the sketch of the dog it has a collar, too, and so I added a collar to the model while making it. In the sketches, the bee has only two legs, but the others simply weren’t drawn. On

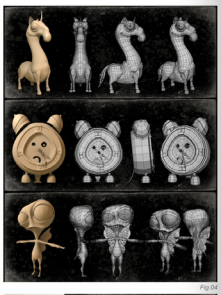


Fig.04

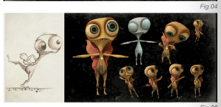


Fig.06

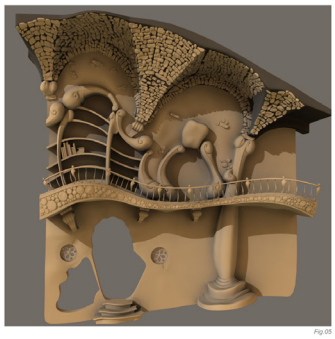


Fig.05

Fig.07

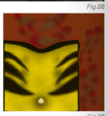


Fig.08

the model, though, it has six. With the other attached legs, the character looks more complete! Also, the fur on the 3D model’s neck is more “bunchy” than in the sketches.

For the fur I used Maya fur. A correct UV map was needed, and for the color differences I made partitions in some areas on the map and the model. By using the fur options, such as “Density_length_scraggle”, and so on, good results can be achieved!

The environment consisted of amorphous forms, so it wasn’t possible to construct it just from the frontal elevation. I therefore needed to work on it in a plan format and only then, in the 3D process, add further detail (**Fig.05**).

Finally, the rigging process was done to get the characters ready for making an animation for a future project (**Fig.06**). By the way, rigging is one of the most important milestones for animation!

Texturing and Shading

While working on the textures for the bibelots, I tried not to exaggerate the wear and tear on them too much, even though they were old and decrepit from having been used extensively and then left unwanted. The price tags from paper which were added onto the characters were the most timeworn aspects (**Fig.07–08**).

Most of the materials were from the Mental Ray materials. For the character skin shaders I used Mental Ray’s “SSS” (Subsurface Scattering).

Rendering and Compositing

The scene was rendered with Mental Ray using more than one render pass (Color, Alpha, Shadow, Reflection, Background and Foreground). Before the final scene I made some test renders to help make a decision about the background and foreground (**Fig.09–13**).

The concept was clear in my mind but I didn’t work on a detailed sketch of the scene because working in 3D gives you the chance of changing the camera angle.

The magic dust that’s falling out from the hand of the fairy, the dust particles in the air, and the exterior trees were all done in Photoshop. To achieve the special effects on the characters, I blurred the background evenly, and therefore made the detailing less apparent. Consequently, the characters appear more in focus which was the intention. For the final scene, I preferred a yellow light to convey the magical atmosphere.

Fig.09

Fig.10

Fig.11

Fig.12

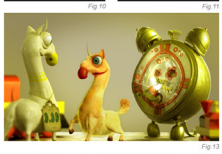


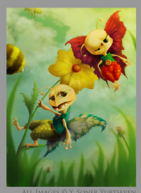
Fig.13

All these stages were composited in Photoshop, and with a little more work the scene arrived at the final version.

Conclusion

During the work in progress period I wanted to finish the concept in the way that I had been preparing for all along; with all the characters’ rigging phases complete so that they were ready for the animation process, and I achieved exactly what I set out to do. I didn’t change the way I worked, or do anything differently, but as I was producing the piece for a challenge, I got the chance to communicate with people from all around the world. Talking to them about different ideas and sharing my thoughts in forums was great and probably helped to shape my finished piece. Taking part in challenges is a one of the best ways to share experiences, and it also encourages you to work on something personal, rather than just the projects you have to work on for your job.

Artist Portfolio



All Images © Y. Soner Yurtseven

www.3dcreativemag.com
image : Sven Juhlin
SUBSCRIPTION
GET YOURS TODAY
SUBSCRIBE NOW & SAVE UP TO 25%
on this already amazing value publication!
12 ISSUES FOR THE PRICE OF 9
£24.75 save £8.25 (approx - $35.91 save $11.97)
6 ISSUES FOR THE PRICE OF 5
£13.75 save £2.75 (approx - $19.95 save $3.99)
Have your 3DCreative Magazine Download link
delivered automatically to your inbox every month...
and have it before anyone else!

3DC

Here is what's in next months issue of 3dcreative

Interviews

Fabricio Moraes
Gavin Goulden

Tutorials

NEW - Creating a Gothic Church Interior
New 5 Part Mega Series
Speed Sculpting
Fantasy Cyclops
ZBrush Character Creation
Part 9 Frankenstein

Galleries

another **10 of the best** Images from around the world!

PLUS MUCH MUCH MORE!!

VISIT WWW.3DCREATIVEMAG.COM FOR FULL INFORMATION AND TO PURCHASE CURRENT AND PREVIOUS ISSUES FOR ONLY $4 US EACH!

Image by Rafael Grassetti

Is a resource website for the CG community; amongst our growing number of products for CG artists, we produce two monthly downloadable PDF magazines – *2DArtist* and *3DCreative*. We are based in the West Midlands, in the UK, and our intention with our magazines is to make each issue as full of great articles, images, interviews and tutorials as possible. If you would like more information on 3DTotal or our magazines, or if you have a question for one our team, please use the links below.

Contact Information

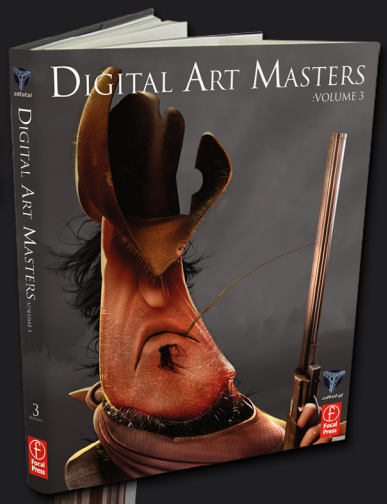
http://www.3dtotal.com
http://www.3dcreativemag.com
http://www.2dartistmag.com

Editor & Content Manager > Lynette Clee
lynette@3dtotal.com
Lead Designer > Chris Perrins
chrisp@3dtotal.com
Marketing > Jo Hargreaves
jo@3dtotal.com

Partners

If you have a CG community website and would like to support *3DCreative* and/or *2DArtist* magazine by showing our banners, please contact Lynette Clee at the email address above

Available Now!
Digital Art Masters
: Volume 3



288 Page Preview Online!

Available Now Only!

UK - £32 USD - $64 EUR - €49

Features 60 of the finest digital 2D and 3D artists working in the indusrty today, from the likes of:

Alon Chou
Damien Canderlé
Gerhard Mozsi
John Wu
Laurent Pierlot
Levente Peterffy
Marek Denco
Neil Blevins
Nathaniel West
Matt Dixon

Buy the book to see just how they create their incredible imagery!

Hardback 21.6cm x 27.9cm in size

288 Full Colour premium paper pages

3dtotal.com

for more products in our range visit http://www.3dtotal.com/shop

51 Free textures

Gothic Church
Interior Creation

In conjunction with our Gothic Church Interior Creation tutorial series, we are giving away **51 fully tileable high-resolution textures** (each with the accompanying bump, specular, and in some instances normal maps) from our Total Textures collections to all 3DCreative readers – be sure to click on the yellow Free Resources icon in the Gothic Church Interior Creation tutorials to download your **FREE** textures!

totalTextures

20% discount

Keeping in the spirit of things, we are also running a very special **20% discount on all Total Textures DVDs!** The 20% discount also applies to our rather impressively sized 17-DVD Total Textures Bundle, and is for our wonderful 3DCreative readers only (that's you, by the way!). To claim this offer, all you have to do is grab the special **Coupon Code** (found at the bottom of this page), head on over to the **3DTotal Shop**, log into your account (you may need to register if you don't already have one – it's quick and pain-free!), fill up your basket and then head to the checkout. Don't forget to use your Coupon Code to register your 20% discount as this offer – it's just for you and will only work with the Coupon Code provided! Note: you will add your Coupon Code in the 2nd stage of the payment process (in the Payment Information section); you will confirm payment in the 3rd stage of the payment process (Order Confirmation).

Discount Coupon

Simply redeem your **special 20% Total Textures discount** by entering this code in the 3DTotal Shop:

Coupon Code

3dcapr09

3ds max

Gothic Church

Interior Creation

This series will provide an overview of the principal techniques used to create a gothic interior based upon a concept painting, along with a tutorial on the process of sculpting a gargoyle character in ZBrush. Key methods covering modelling, texturing, lighting and rendering will be outlined over the course of the series and culminate in a chapter on post production and how to composite numerous render passes into a final image.

The schedule is as follows:

PART 1: This tutorial will outline some of the prominent approaches to building the church interior. We will cover some of the key methods and modifiers responsible for creating the scene and core geometry.

PART 2: Will focus on the creation of the gargoyle which will be mounted on one of the columns. This tutorial will orientate around ZBrush and its powerful sculpting tools and show how a detailed model can evolve from simple ZSpheres.

PART 3: This part will detail the texturing phase of the series and deal with mapping and unwrapping key areas of geometry alongside the gargoyle.

PART 4: Lighting and rendering will be the focus in this tutorial. Light rigs and a variety of render passes will be explained in readiness for Part 5; the post production.

PART 5: This, the final part of the series, will show how the various render passes are composited in Photoshop to create a final render. An account of some of Photoshop's tools will show how versatile this approach can be and show the value of multiple passes for post production.

FREE RESOURCES
DOWNLOAD HERE

Gothic Church
INTERIOR CREATION
PART 3: TEXTURING

CREATED IN:

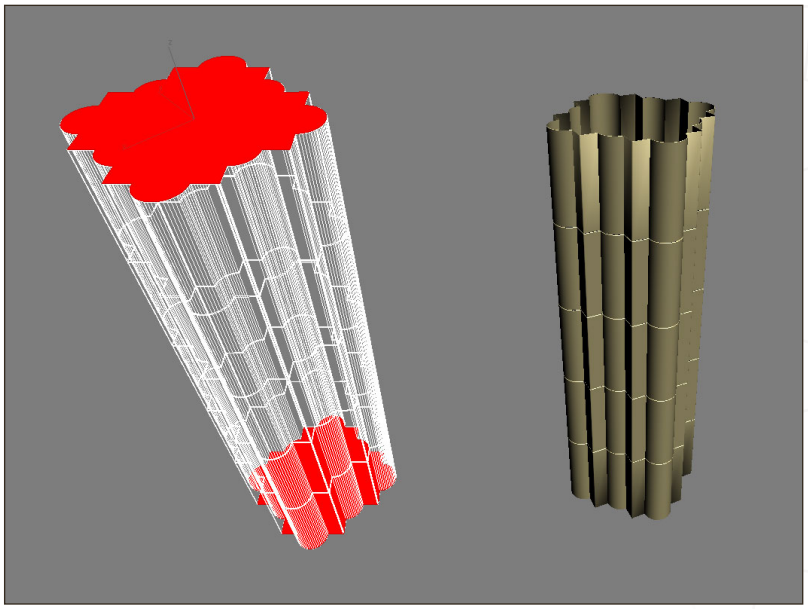
3ds Max

PART 3

In this part of the tutorial we'll cover unwrapping and texturing techniques, and as usual we'll use 3ds Max for the 3D stuff and Photoshop for the texture creation. We'll also use the 3DTotal textures collections as a starting point to create the textures for our scene.

Let's start with the columns. Select one of them and hide everything else. Since the column's body will be occluded by other objects in its top and bottom parts, we can just select and delete the polygons marked in red in **Fig.01**. This will help us to gain more space for UVs, thus resulting in a more detailed texture.

Fig.01



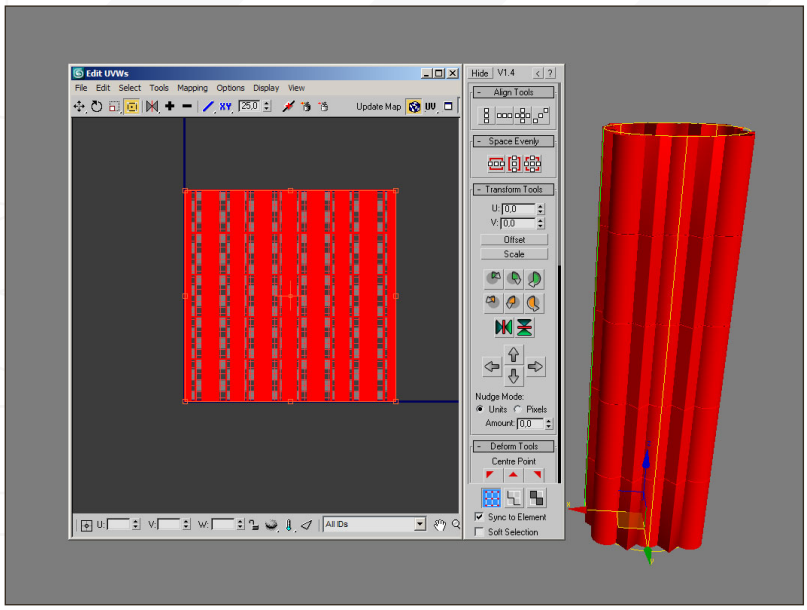


Fig.02

Apply an Unwrap modifier to the column, select all of its faces and use a Cylindrical projection, as shown in **Fig.02**. Make sure to adjust the UVs to make them fill the texture square.

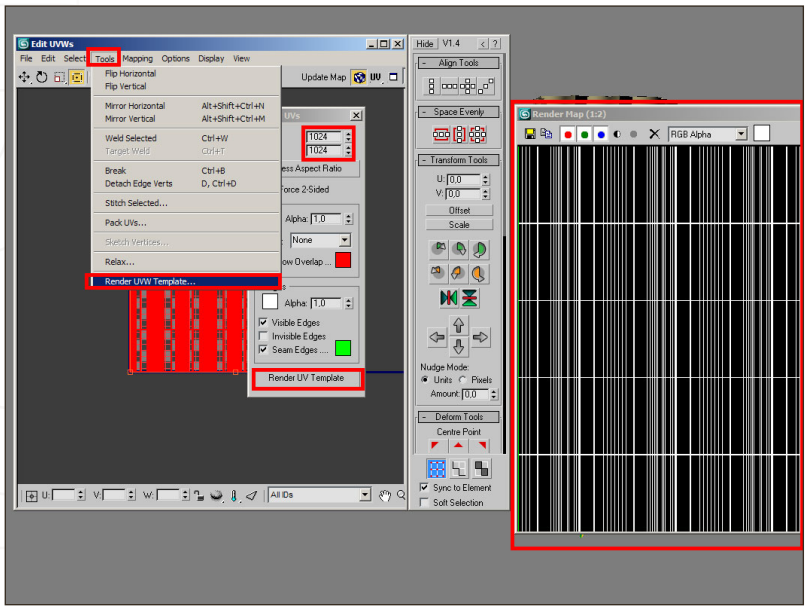


Fig.03

Now we can export the UVs template to Photoshop. Use the Tools / Render UVW Template in the texture editor; set the size to 1024 by 1024 and click on the Render UV Template button. Save the resulting picture in any format and give it a meaningful name (for example, Uvs_Column) (**Fig.03**).

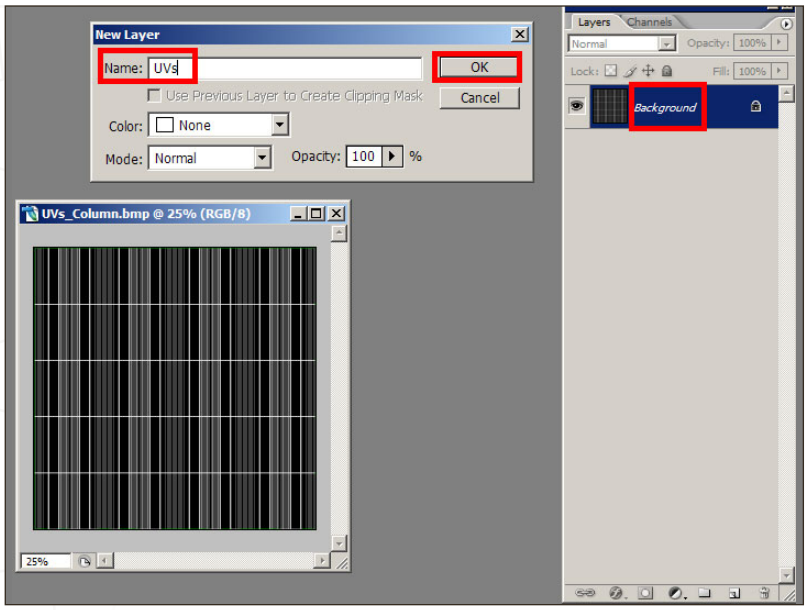
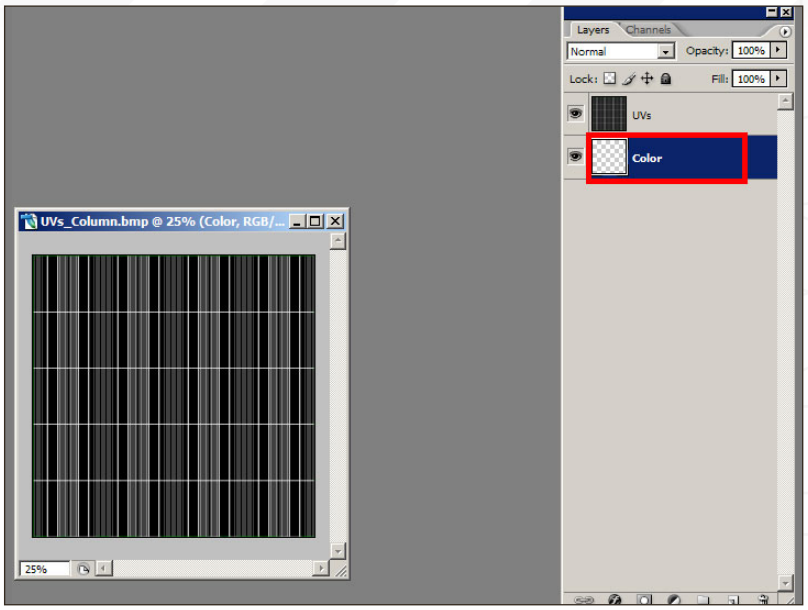


Fig.04

Open the picture you just saved in Photoshop, double-click on the Background layer and rename it "UVs" (**Fig.04**).

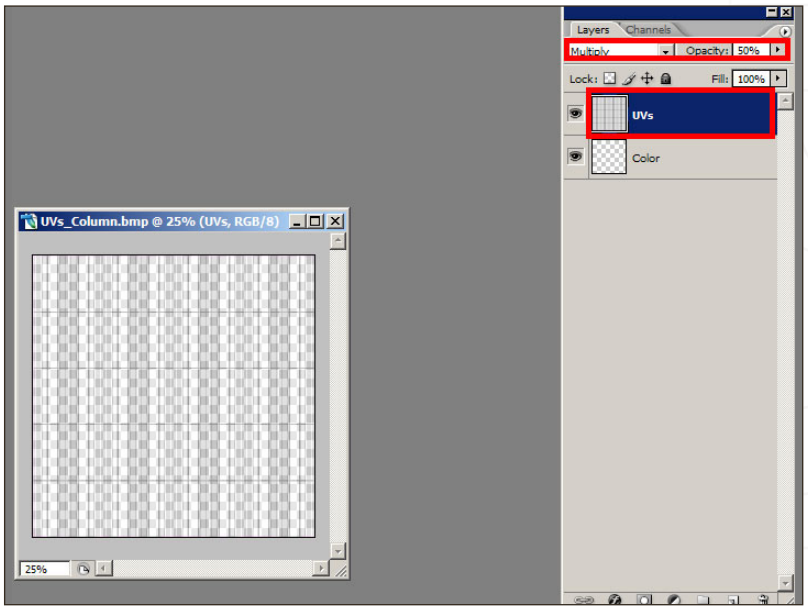
Create another layer and name it "Color". Put it just below the UVs layer, as shown in **Fig.05**.

Fig.05



Go up to the UVs layer and change its blending mode to Multiply. Also, set its Opacity down to about 50% (**Fig.06**).

Fig.06



Search through the 3DTotal texture collections to find a good texture for the column. Try to find a nice stone texture, and import it in the Color layer (**Fig.07**).

Fig.07

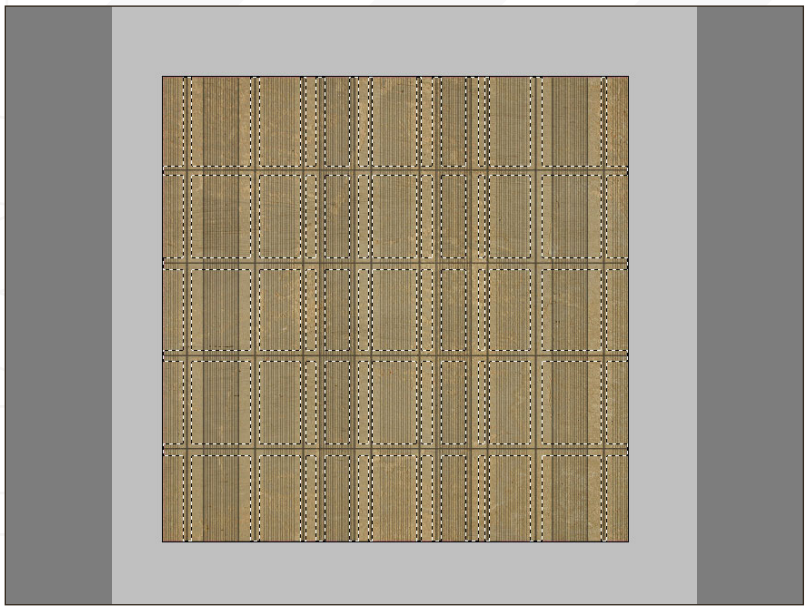


Fig.08

Use the Rectangular Marquee Tool to select the area shown in **Fig.08**.

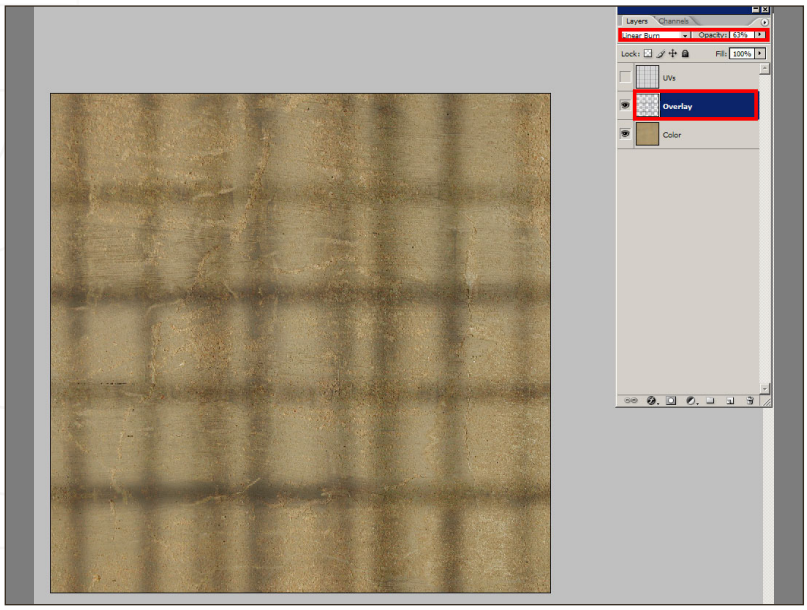


Fig.09

Pick another texture from the collection; this time search for a nice overlay texture. We just need it to create some dirt in the selection we made. With the marquee selection still active, use the Shift + Ctrl + V shortcut to paste the new texture in a layer mask. Once you've finished adjusting the size, blending mode and opacity for this layer mask, you can right-click on it and make it a simple layer, calling it "Overlay" (**Fig.09**).

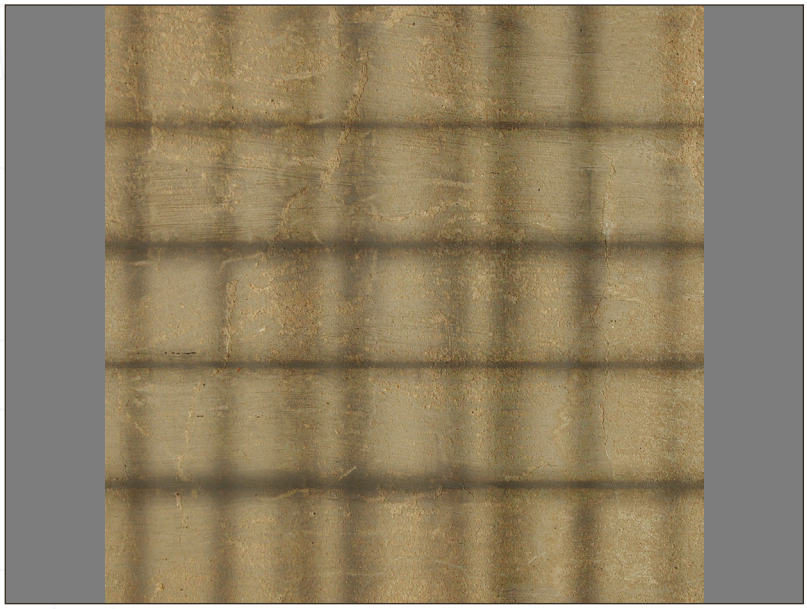
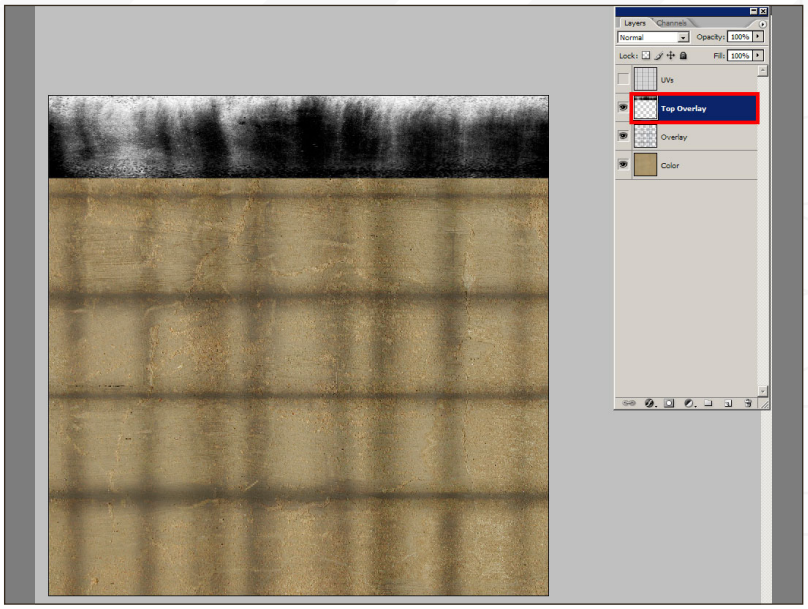


Fig.10

Put in some more horizontal overlay lines; use the UVs as a reference to simulate the dirt effect in the indentations on the column body (**Fig.10**).

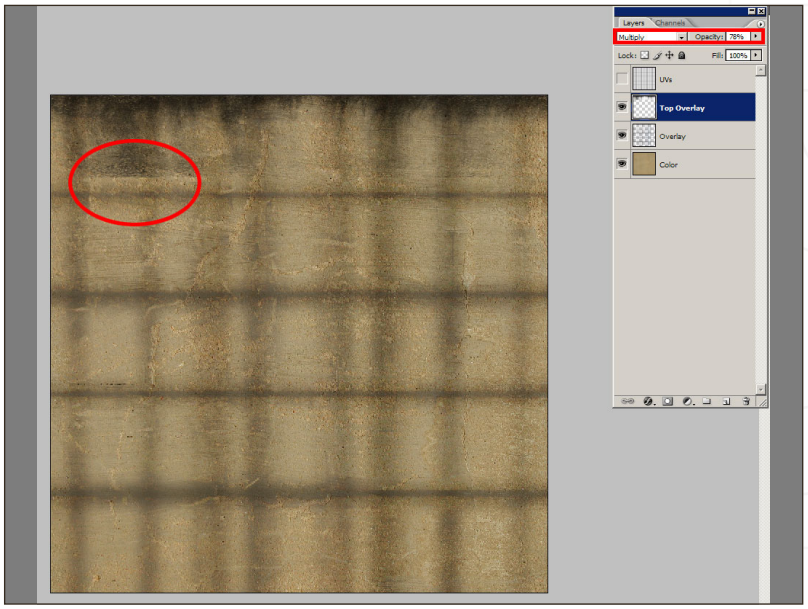
Import some more overlay textures over the Color layer; this time we'll make some dirt on the top and bottom parts of the column (**Fig.11**).

Fig.11



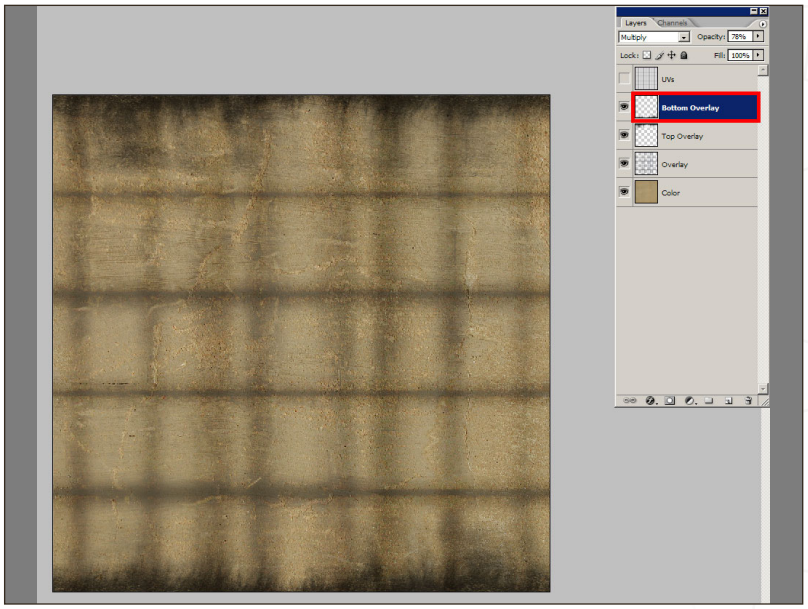
Try to play around with blending modes and opacity values until you get the amount of dirt you desire. Make sure that the overlay textures are always nicely integrated over the Color layer. If you notice some problematic spots, just blur them out (**Fig.12**).

Fig.12



Repeat the process for the bottom part (**Fig.13**).

Fig.13



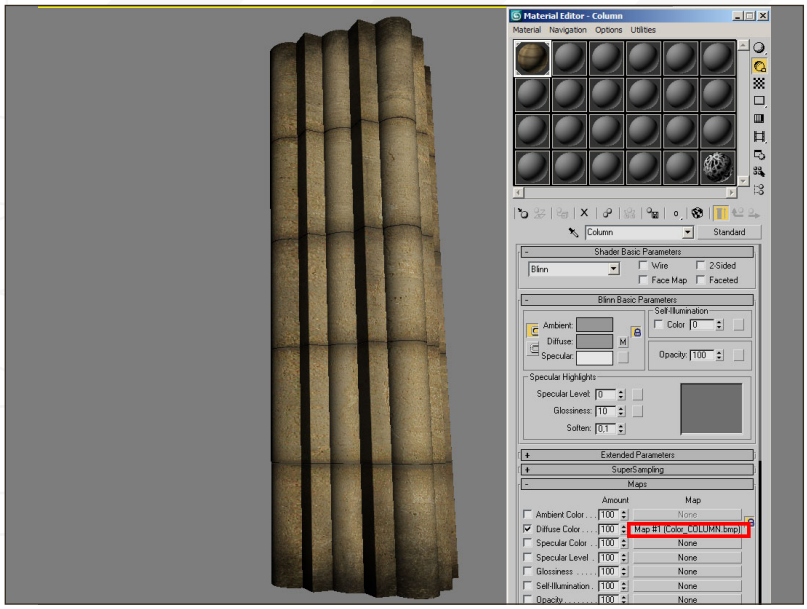


Fig.14

Now hide the UVs layer and save the color texture for the column. Go back to 3ds Max and assign this new texture to the diffuse slot of a new material. Finally, assign this material to the column (**Fig.14**).

Fig.15

Now let's create the bump map for the column. Pick the bump version of the texture you chose for the column (**Fig.15**).

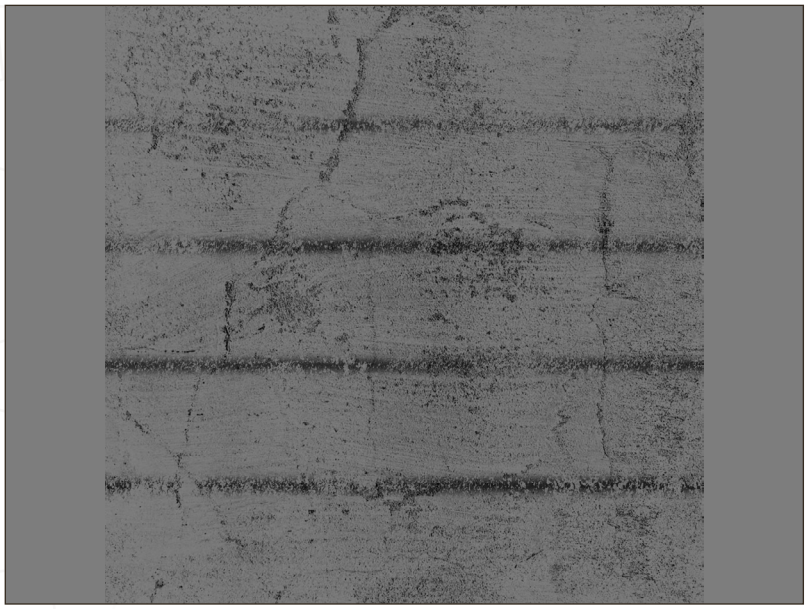
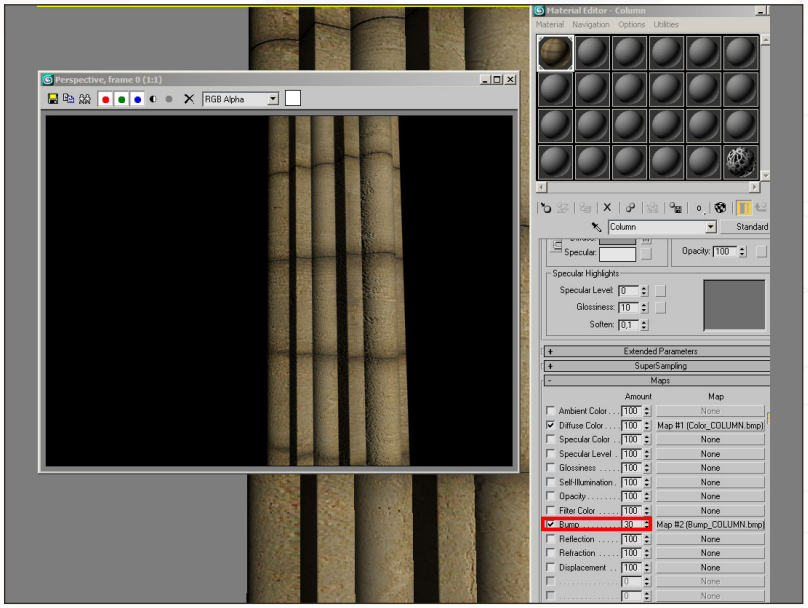


Fig.16

Add some dark horizontal lines where the column has its indentations (you can use the UVs template as a reference) (**Fig.16**).

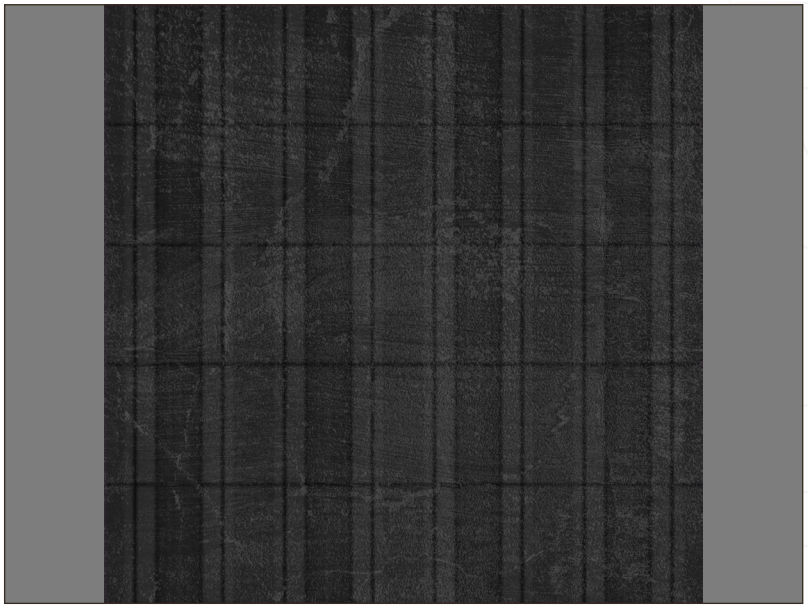
Assign the bump texture to the Bump slot in the 3ds Max material editor, and do a quick test render (**Fig.17**) to choose the right amount of bump.

Fig.17



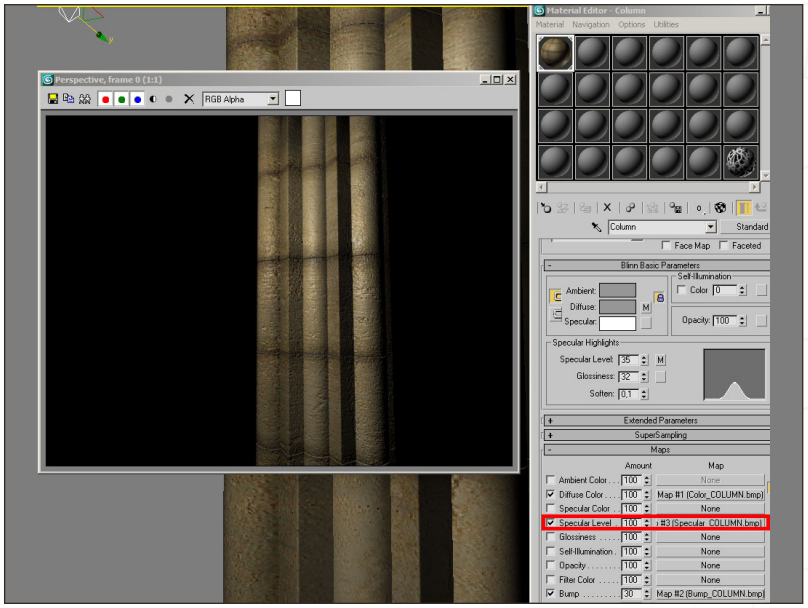
Repeat the process for the specular map; use the template to decide where the specularity should go (**Fig.18**).

Fig.18



Assign the specular texture to the Specular Level slot in the material editor, and do another quick render to see how it's going (**Fig.19**).

Fig.19



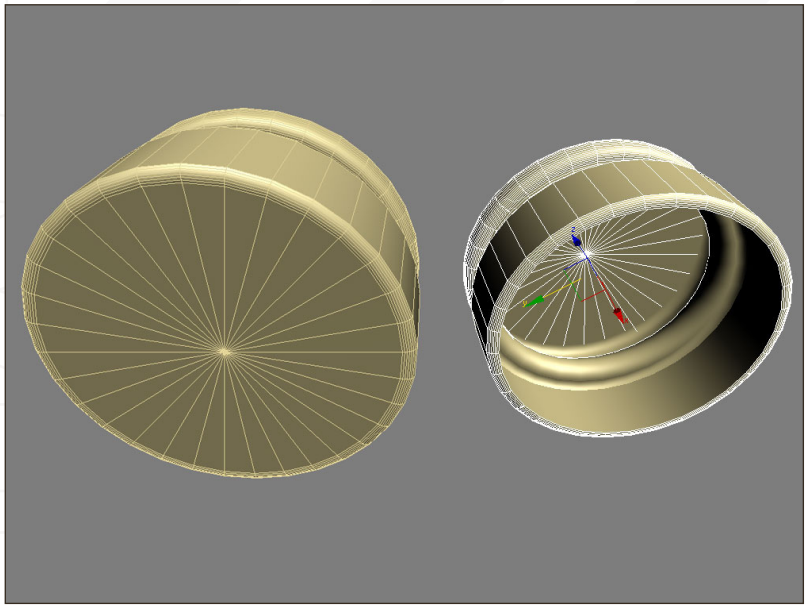


Fig.20

Now let's take care of the column's base. Delete the polygons which won't be visible at all (in this case, the one at the base of the cylinder), to save some room for the texture space (**Fig.20**).

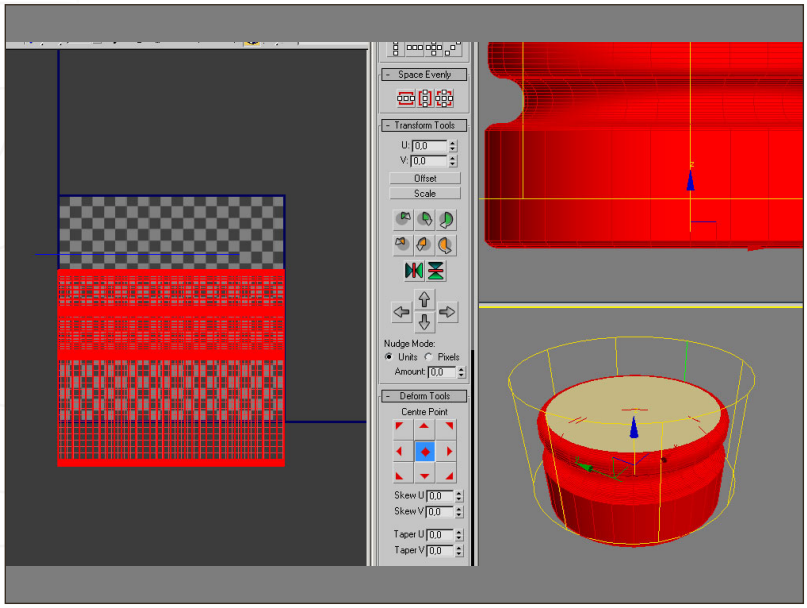


Fig.21

Assign an Unwrap modifier to the object, open the texture editor and select everything but the top circular polygon. Assign a Cylindrical projection to the selected faces (**Fig.21**).

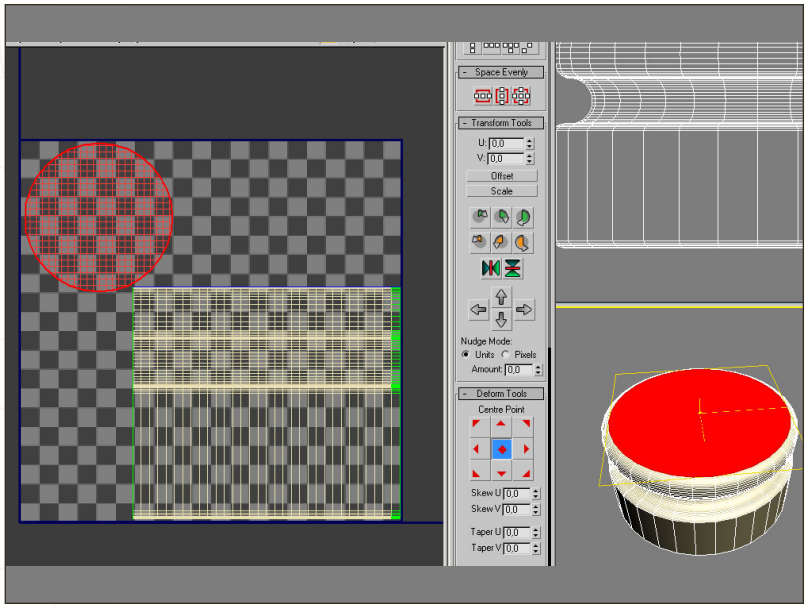
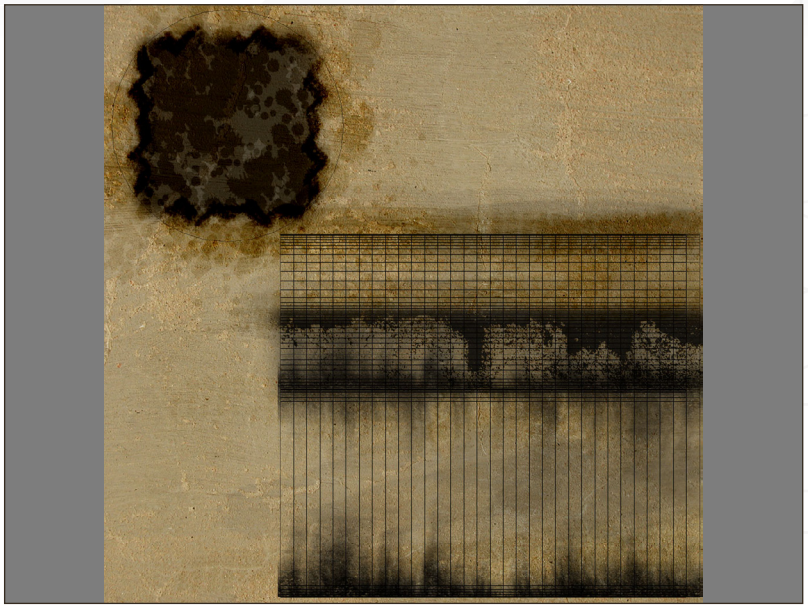


Fig.22

Select the top circular polygon and assign a Planar projection. Arrange the two chunks in the texture space, as shown in **Fig.22**.

As usual, use the UVs template saved from the texture editor to create the texture itself. Create dark areas where the object is occluded (by other objects or by its own indentations) (**Fig.23**).

Fig.23

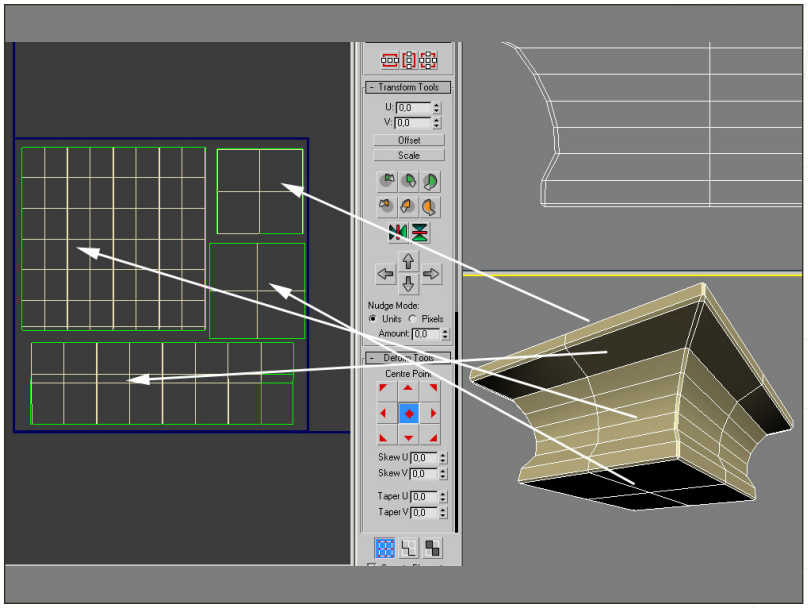


Create a specular and a bump map just as we saw earlier (**Fig.24**).

Fig.24

Let's go on with the column's top. This object needs to be split into different UV chunks, as shown in **Fig.25**. Try to dedicate more UV space to bigger pieces, or pieces which are more visible or particularly important.

Fig.25



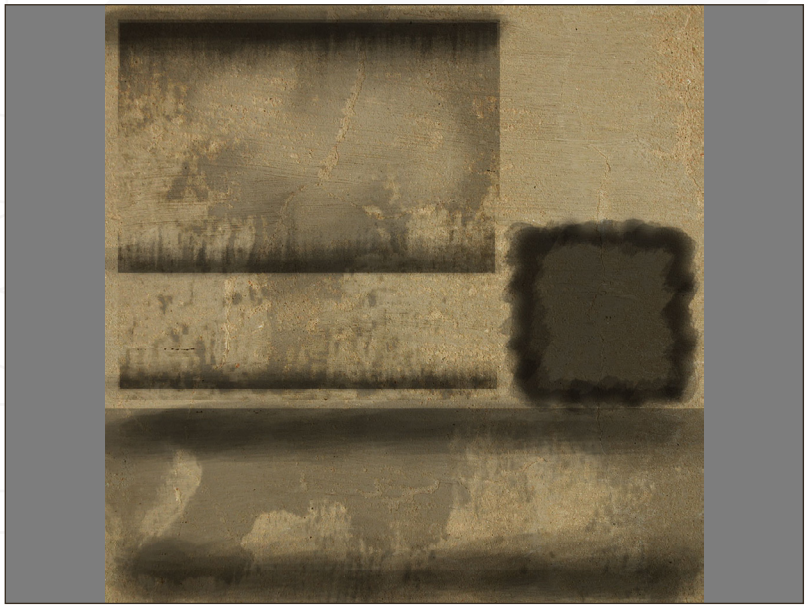


Fig.26

In **Fig26** you can see the final column's top texture.

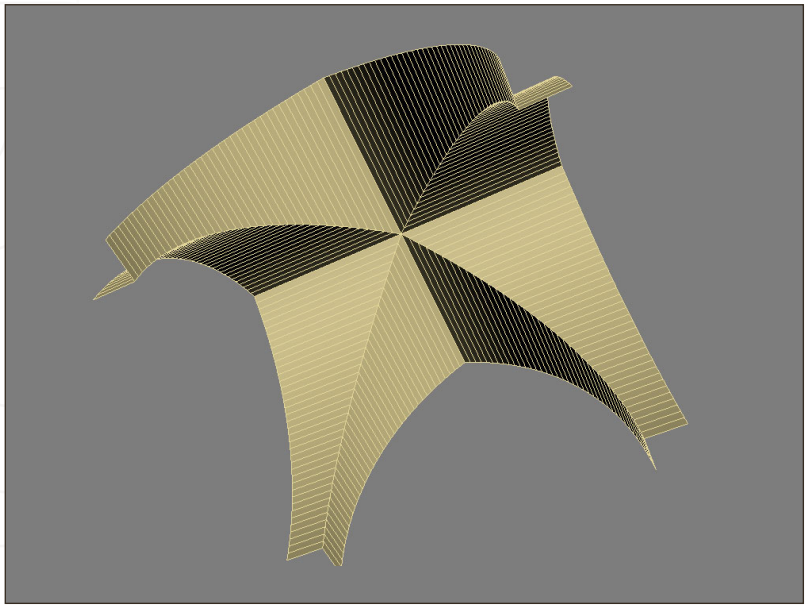


Fig.27

Now the ceiling arcs. Select one of them and hide everything else (**Fig.27**).

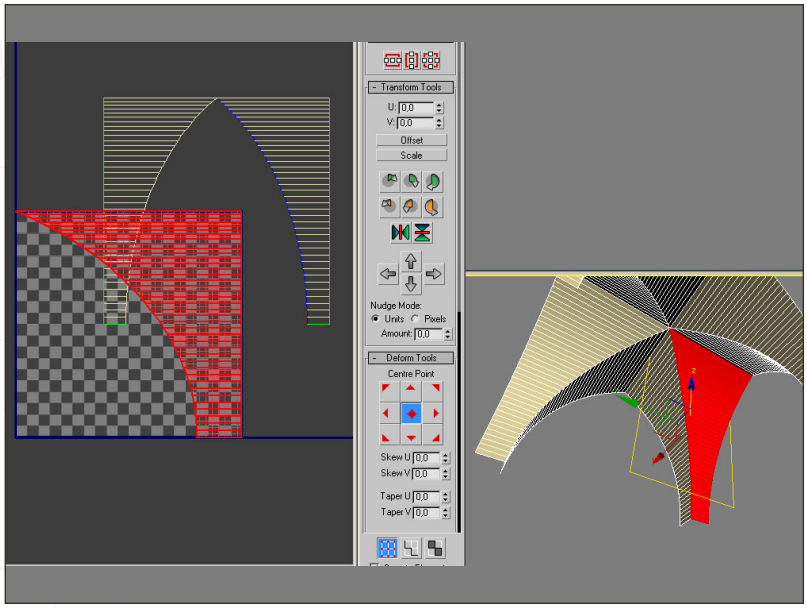


Fig.28

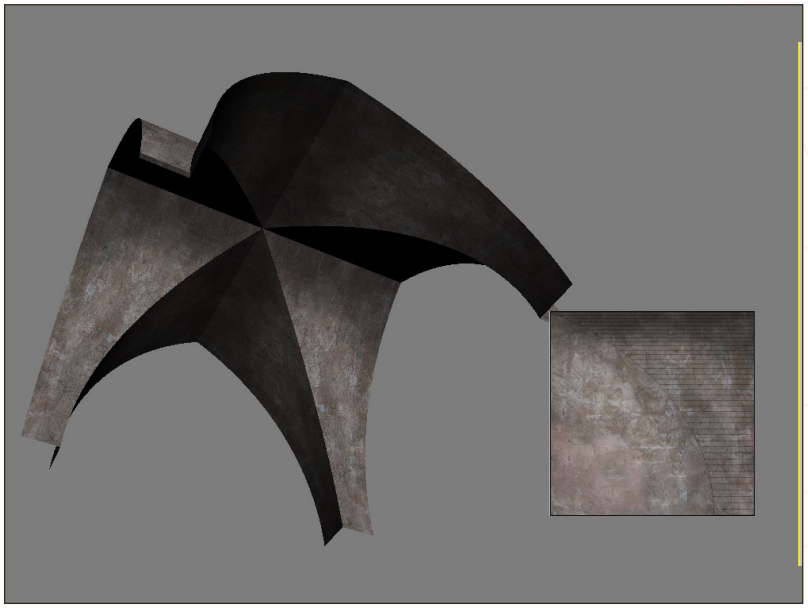
Select one half of an arc and apply a Planar projection to it. Then adjust it's size and position to make it perfectly fit the texture space (**Fig.28**). Keep unwrapping all the other halves (you can try and use the Copy/Paste UV features in the texture editor to speed up the process).

Choose a texture from the 3DTotal collection and try to reduce spots which are too evident. We need a nice, uniform texture (**Fig.29**).

Fig.29

Use the UVs template to darken out occluded areas and to add some dirt here and there. Finally assign the texture to the Diffuse slot of a new material, and assign it to the arc (**Fig.30**).

Fig.30



For the smaller arcs, we can use one of the Loft features to achieve a good mapping in a totally automatic way. Make sure that Apply Mapping and Normalize are enabled. You can use a procedural checker texture to see how the mapping is behaving on the object (**Fig.31**).

Fig.31

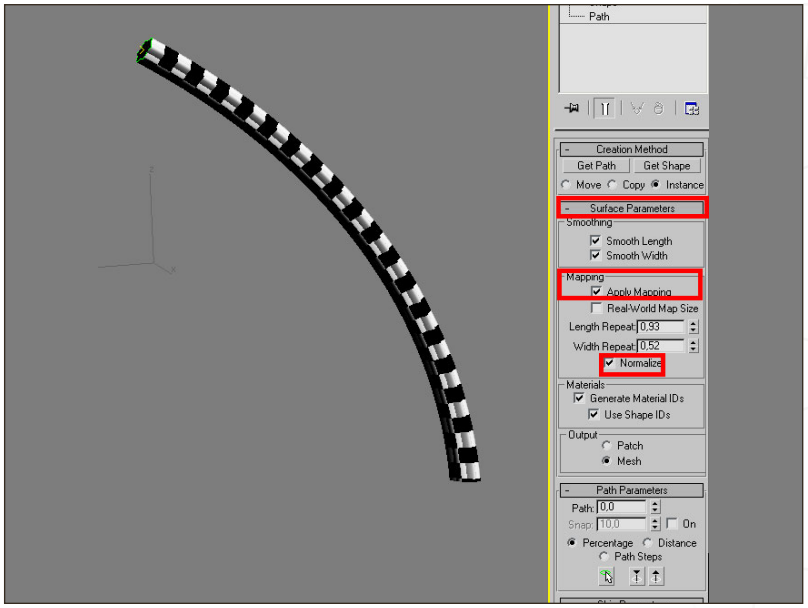


Fig.32

In **Fig.32** you can see the texture that was created for the smaller arcs. It's a tileable texture, which combined with the auto-mapping feature of the Loft object will allow you to texture your object in a matter of seconds.

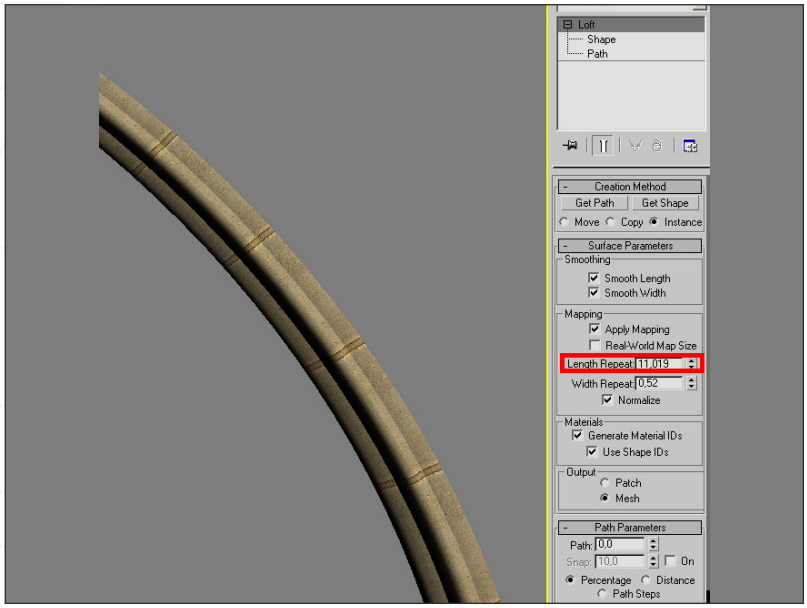


Fig.33

Changing the Length Repeat value in the Mapping rollout of the Loft object, you can set the amount of repetitions for the tiles (**Fig.33**).

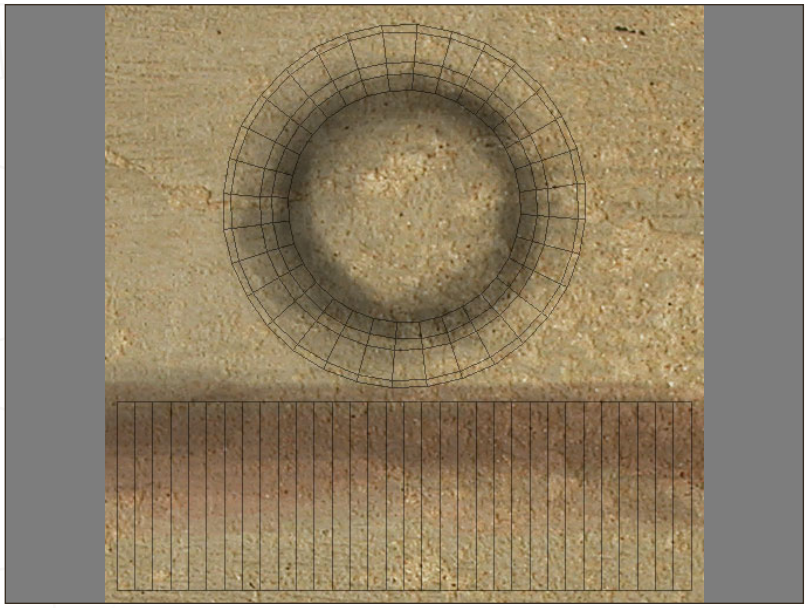
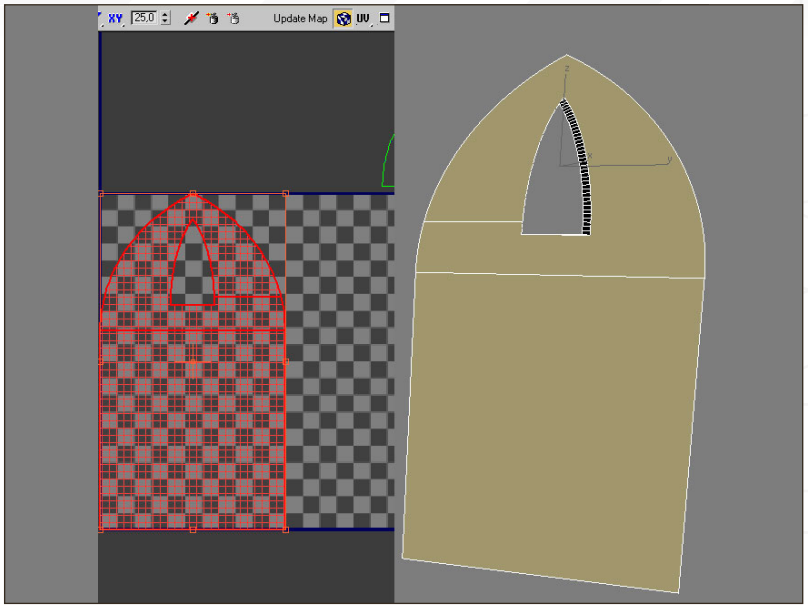


Fig.34

Now let's create the texture for the central cylinders that can be found on every ceiling arc's crossing point. As usual, pick a texture from the collection and mark out dark and occluded areas. Use the UV template as a reference (**Fig.34**).

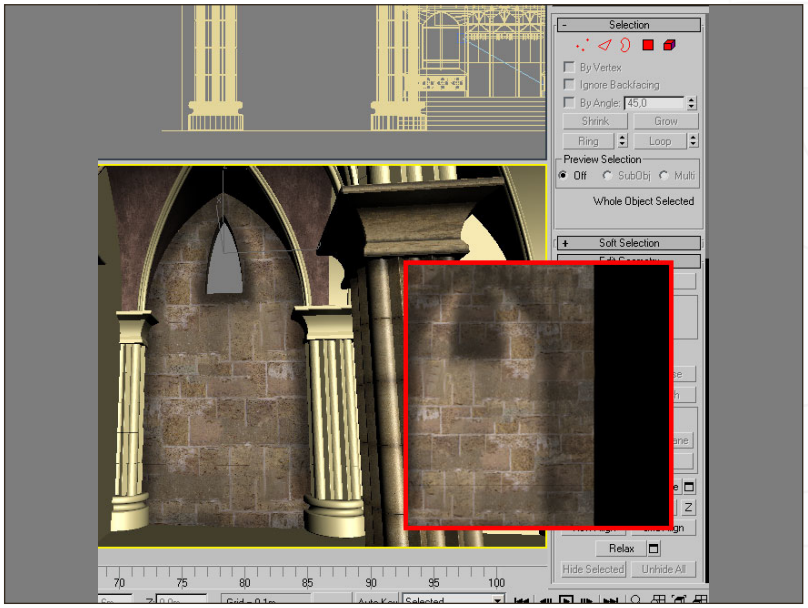
Select one of the walls and hide everything else. Just apply a Planar projection to the bigger surface of the wall, as shown in **Fig.35**.

Fig.35



Mark some dark areas around the window and all around the wall's perimeter, where it will be occluded by arcs and columns. Save the texture and assign it to the diffuse slot of the wall's material (**Fig.36**).

Fig.36



Add some more dirt on the top and bottom areas of the wall texture. You can see the final texture in **Fig.37**.

Fig.37

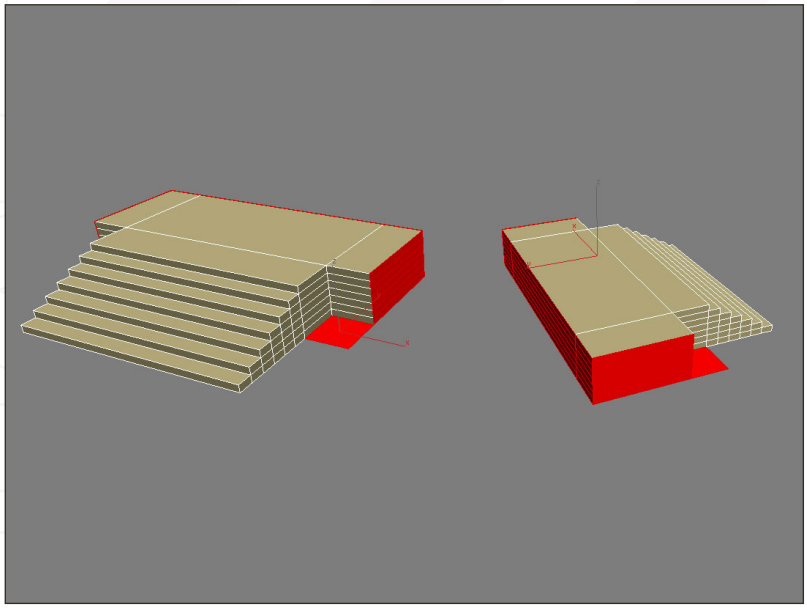


Fig.38

Select the altar base and hide everything else. Select and delete polygons that won't be visible at all (**Fig.38**).

Fig.39

Divide the UVs into chunks, just like in **Fig.39**. Export the UVs template into Photoshop and create the texture for the altar base.

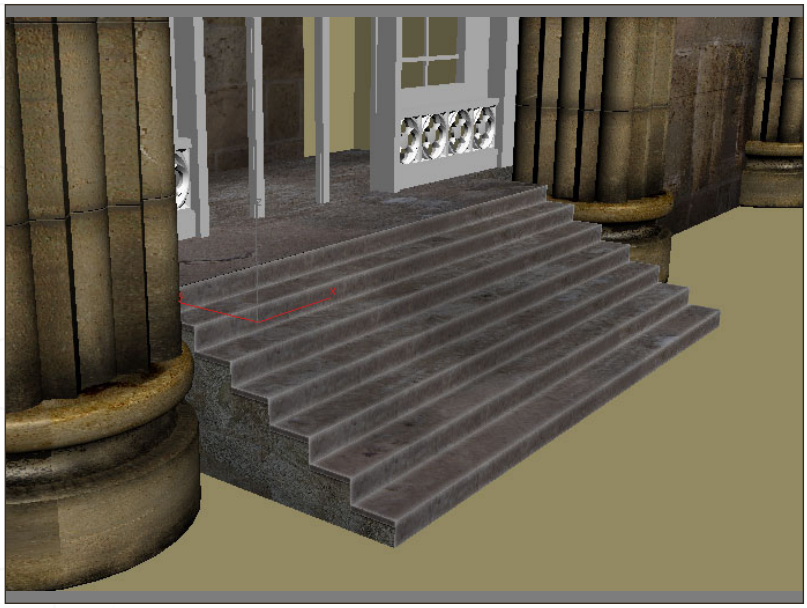


Fig.40

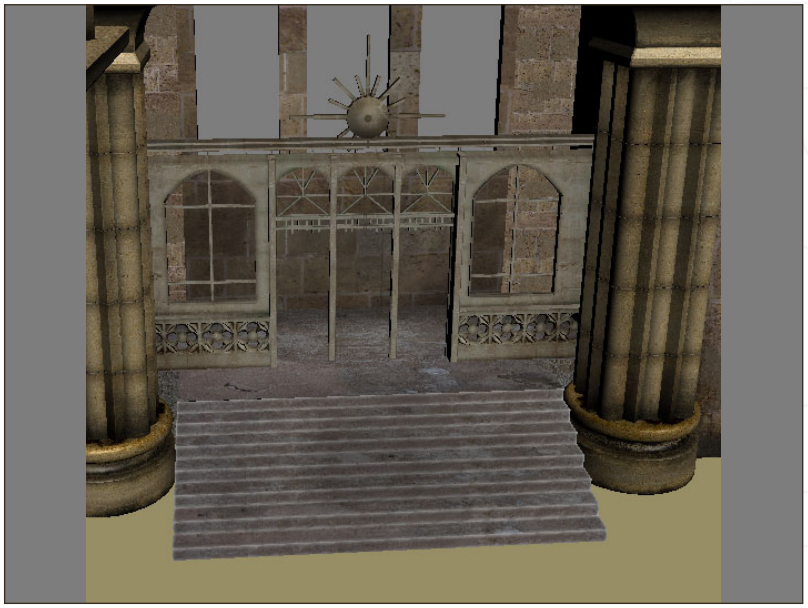
In **Fig40** you can see the final texture applied to the altar's base. Also, take some time to duplicate and substitute the textured objects with the original ones without textures (columns, columns' tops and bases, bigger arcs, smaller arcs, walls).

Select half of the altar's front wall and delete it (keep the sun shape intact, do not delete half of it). Divide its UVs into chunks in the texture editor, export the UVs template and create the texture in Photoshop (**Fig.41**).

Fig.41

Once it's done, mirror/duplicate the half of the altar and attach the two halves together. Make sure to weld all the vertices in the middle (**Fig.42**).

Fig.42



Select the back altar wall and hide everything else. Select the inner border of the window and use the Create Shape from Selection tool to extract a spline for the contour. Then just right click in the viewport on this spline and convert it to Editable Poly. The spline will turn into a flat polygon, which we'll use as a window (**Fig.43**).

Fig.43

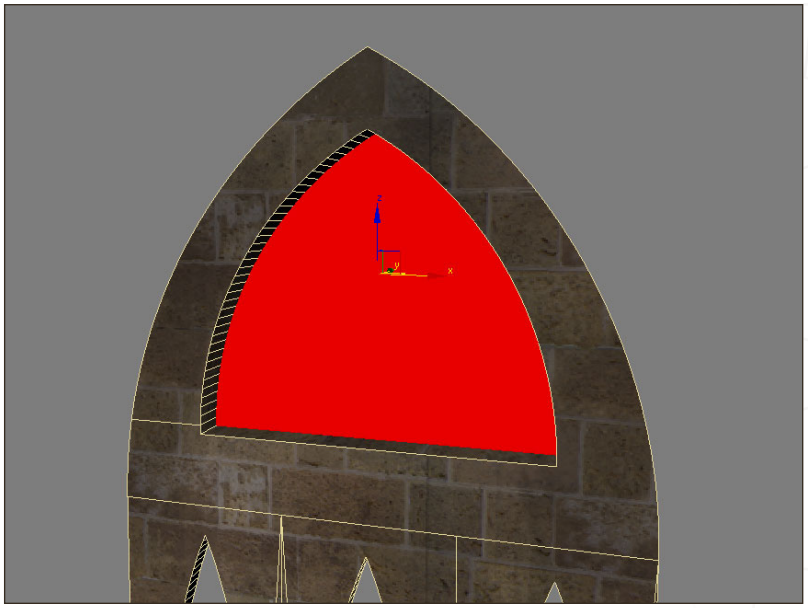


Fig.44

Repeat the process for the three lower windows, and then create a texture for them. You can create one from scratch, or maybe you can just search on Google for a nice stained glass picture (**Fig.44**).

Fig.45

Now select the gargoyle mesh, and hide all the rest (**Fig.45**).

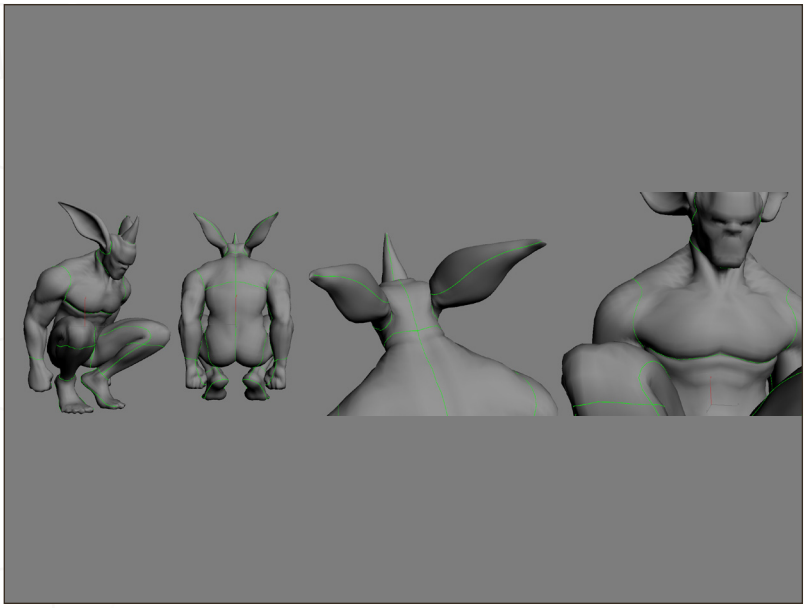
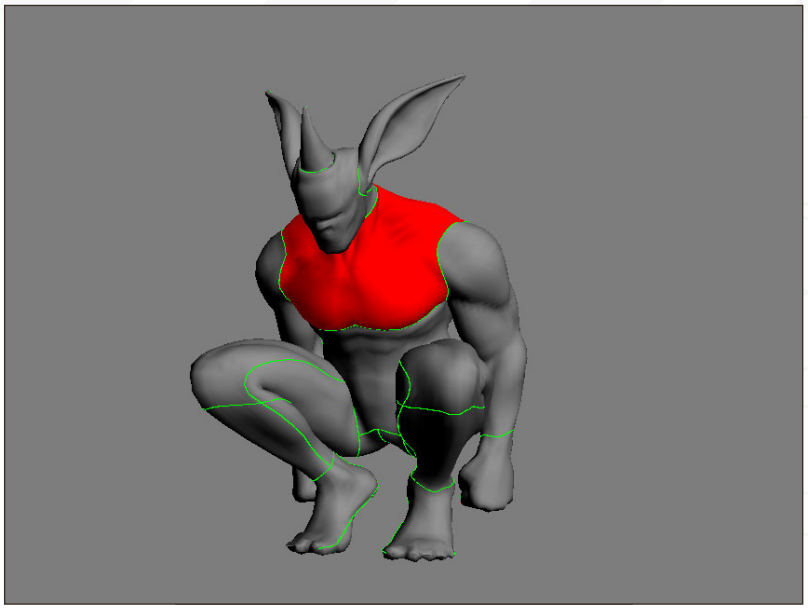


Fig.46

We'll use Pelt Mapping to create the UV template for the gargoyle. In **Fig.46** you can see where the pelt seams were put on the gargoyle mesh. Try to divide the whole object into significant chunks (ears, head, chest, upper leg, lower leg, etc.).

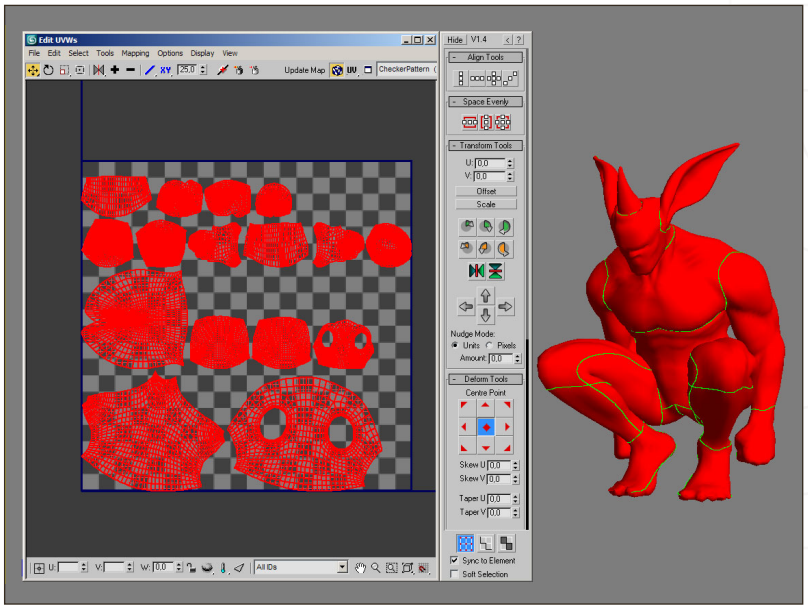
Then select the chunks one by one (in **Fig.47** you can see the chest chunk selected) and unwrap them with the Pelt Mapping tool.

Fig.47



Once you have pelt-mapped all the chunks, try to arrange them in a nice way. Use the Packing UVs tool in the texture editor if needed (**Fig.48**).

Fig.48



Export the UVs template in Photoshop and choose a nice stone texture from the 3DTotal collection. Darken out the occluded areas as usual (**Fig.49**)

Fig.49

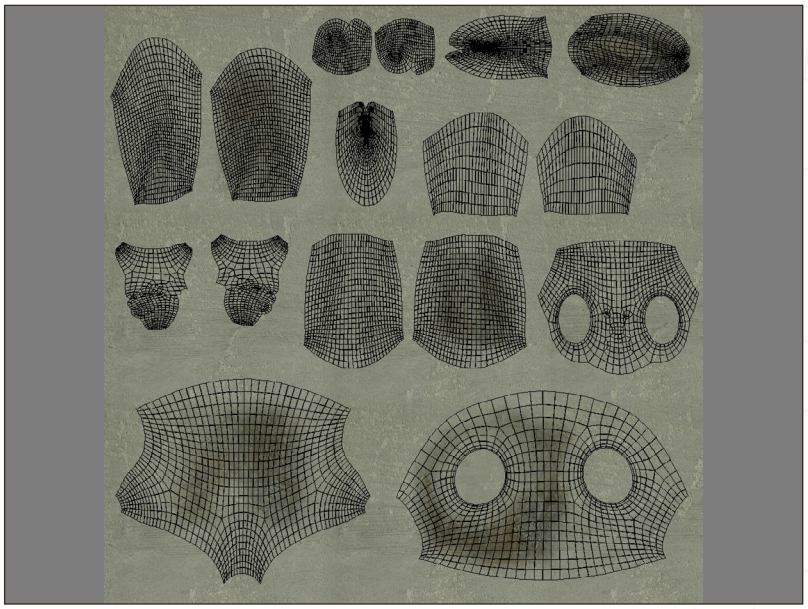


Fig.50

In **Fig.50** you can see the final texture applied to the gargoyle mesh.

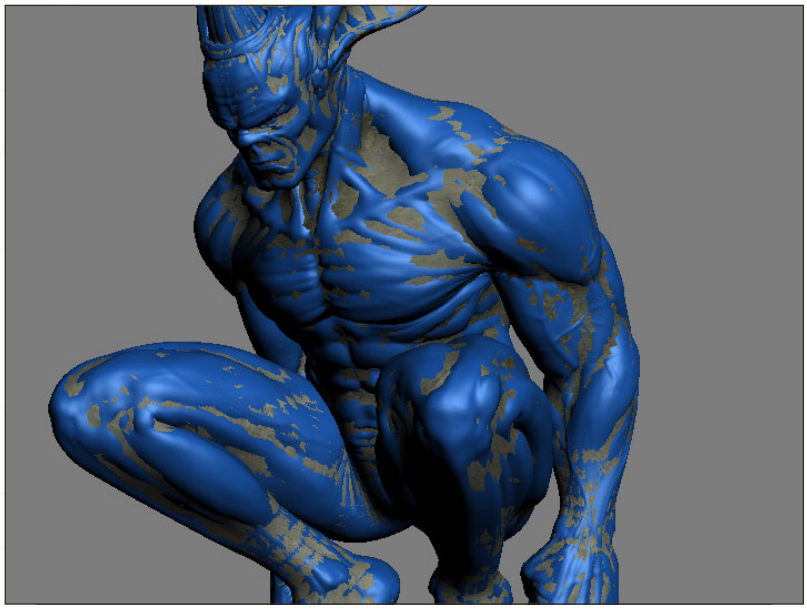


Fig.51

Now let's create the normal map for the gargoyle. Import the high-resolution mesh, and make sure that it perfectly overlaps the low-resolution one (**Fig.51**).

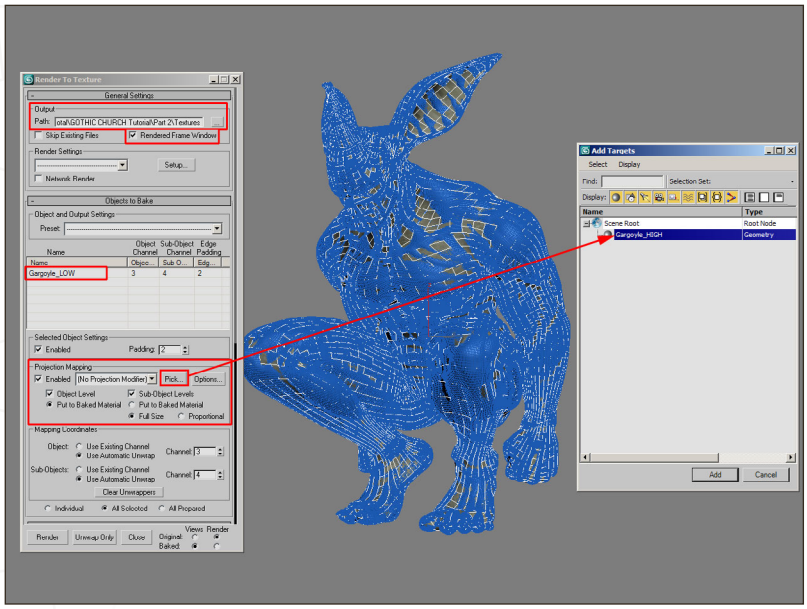
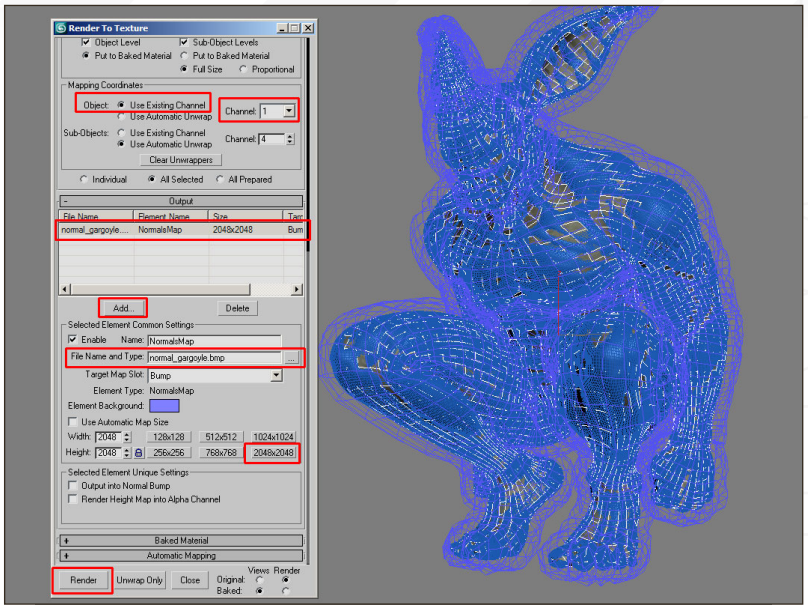


Fig.52

Select the low-resolution mesh and open the Render to Texture dialogue. Set the output for the normal map, then enable Projection Mapping and click on the Pick button to start a picking session. Select the high-resolution mesh. You can leave all the other parameters as they are (**Fig.52**).

A new Projection modifier will be applied to the low-res mesh. Make sure that you are using the Existing Channel (1, in this case), since we don't want to use another UV set for the normal. Click on the Add button and add a Normal Map from the rollout that opens. Choose the filename and type for the normal texture and set its size to 2048x2048. Finally, hit the Render button and wait for the normal map to be generated (**Fig.53**).

Fig.53



You can see the final normal map generated to the Projection Mapping in **Fig.54**.

Fig.54

Select the gargoyle material in the material editor and assign a new Normal Bump map in the Bump slot. In the Normal Bump parameters, assign the normal map you just generated (**Fig.55**).

Fig.55

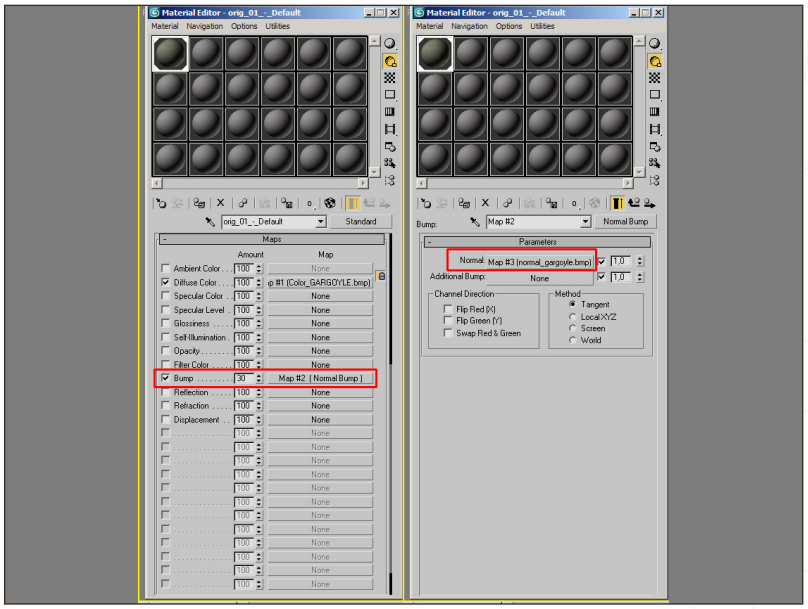


Fig.56

Choose the right amount of bump for the Bump slot and do a quick render test (**Fig.56**).

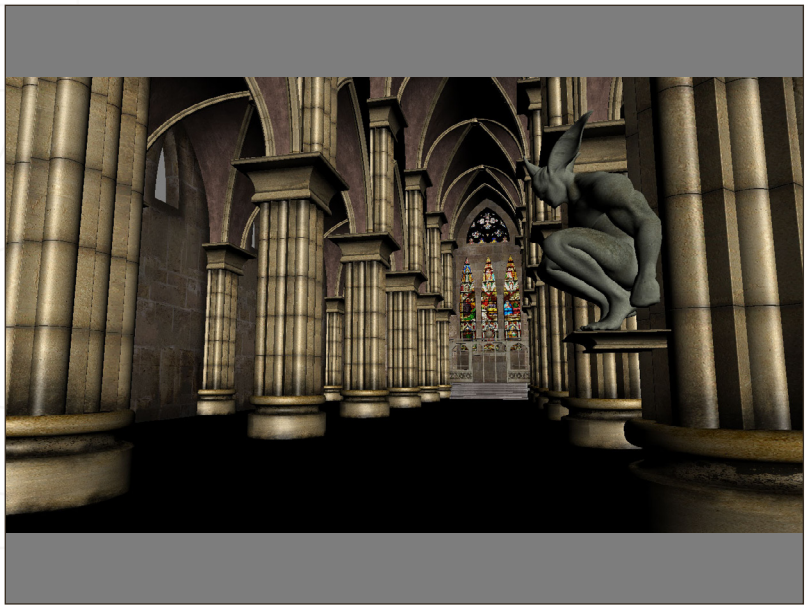


Fig 57

The scene still lacks one more thing: a nice floor texture (**Fig.57**).

Choose a nice texture from the 3D Total collection and assign it to the floor. Make sure that it's perfectly tileable, and also create specular and bump maps for it (**Fig.58**).

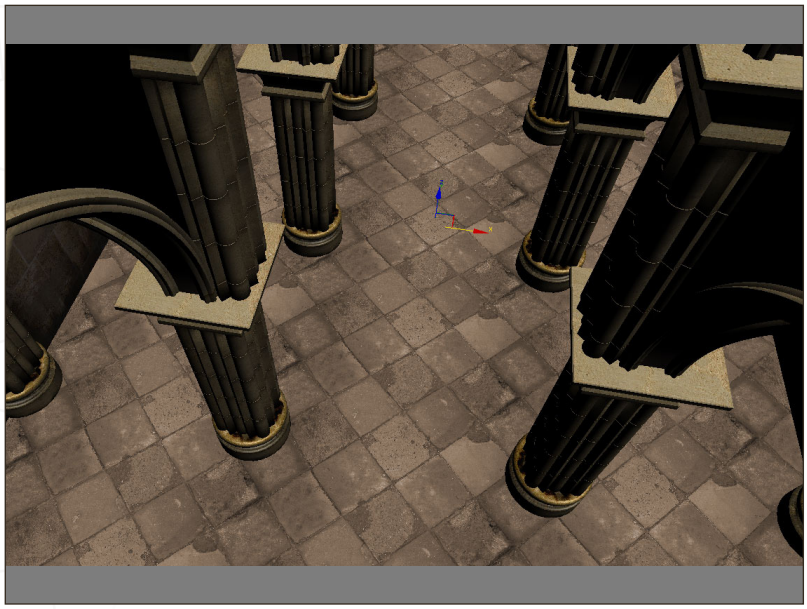


Fig 58

Next time we'll see how to improve our shaders and set the lights and rendering options with Mental Ray.

Gothic Church Interior Creation
Part 3: Texturing

Luciano Iurino

For more from this artist visit:
http://www.pmstudios.it
Or contact:
iuri@pmstudios.it

FREE RESOURCES DOWNLOAD HERE

3ds max CINEMA 4D Maya SOFTIMAGE|XSI

low poly game character

Downloadable Tutorial EBook

Introduction:

The original character of the Swordmaster was created by Seong-wha Jeong and we had 3DTotal's in-house 3d artist Richard Tilbury, re-create the character in 3dsmax as well as create the textures in Photoshop, in our new precise, step-by-step tutorial for highly polished, low polygon game character with detailed texturing for real-time rendering. We have also converted the tutorials into Cinema 4D, Maya, Lightwave and Softimage platforms. Even if you are not a user of one of them, the principles should be easily followed in nearly all other 3D applications.

The Swordmaster tutorials is spread over 8 Chapters which outline, in detail, the process for creating the Swordmaster below are the details.

Chapter 1: Modelling the Head
Chapter 2: Modelling the Torso
Chapter 3: Modelling the Arms & Legs
Chapter 4: Modelling the Clothing & Hair
Chapter 5: Modelling the Armour
Chapter 6: Mapping & Unwrapping
Chapter 7: Texturing the Skin & Body
Chapter 8: Texturing the Armour & Clothing

3dtotal.com

for more products in our range visit http://www.3dtotal.com/shop

Gothic Church

Interior Creation

This series will provide an overview of the principal techniques used to create a gothic interior based upon a concept painting along with a tutorial on the process of sculpting a gargoyle character in ZBrush. Key methods covering modelling, texturing, lighting and rendering will be outlined over the course of the series and culminate in a chapter on post production and how to composite numerous render passes into a final image.

The schedule is as follows:

PART 1: This tutorial will outline some of the prominent approaches to building the church interior. We will cover some of the key methods and modifiers responsible for creating the scene and core geometry.

PART 2: Will focus on the creation of the gargoyle which will be mounted on one of the columns. This tutorial will orientate around ZBrush and its powerful sculpting tools and show how a detailed model can evolve from simple ZSpheres.

PART 3: This part will detail the texturing phase of the series and deal with mapping and unwrapping key areas of geometry alongside the gargoyle.

PART 4: Lighting and rendering will be the focus in this tutorial. Light rigs and a variety of render passes will be explained in readiness for part 5; the post production.

PART 5: This the final part of the series will show how the various render passes are composited in Photoshop to create a final render. An account of some of Photoshop's tools will show how versatile this approach can be and show the value of multiple passes for post production.

FREE RESOURCES
DOWNLOAD HERE

Gothic Church
INTERIOR CREATION
PART 3: TEXTURING

CREATED IN:

Cinema 4D

PART 3

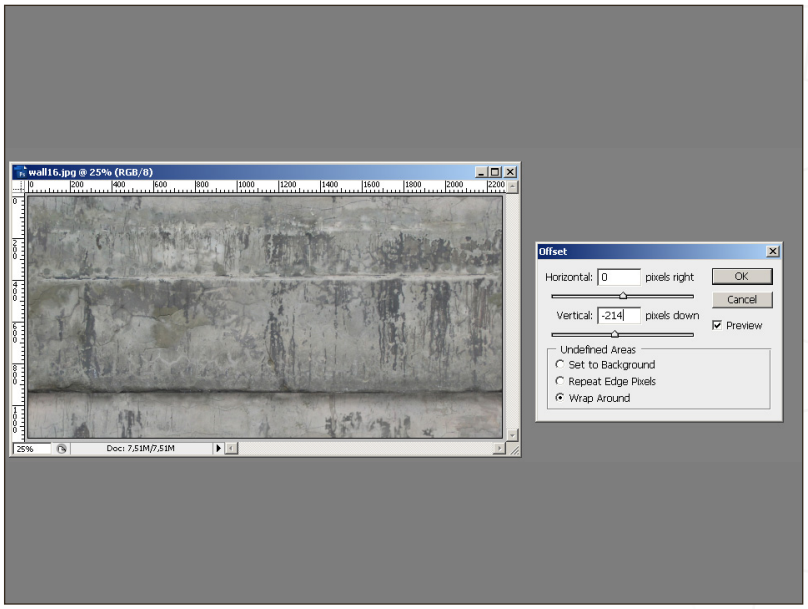
In this third chapter we will cover the major techniques of texture mapping and we'll look at how to create textures and how to apply them to the various objects in the scene.

The textures that we are going to use are part of the Total Textures collections by 3DTotal. Let's start with the column. I'm going to use the texture "wall16" from the Total Textures V2:R2 collection; you can see a preview in **Fig.01**.

Fig.01

We're going to modify the texture, so open the file with Photoshop and apply the Offset filter (Filter > Other > Offset). Modify the Vertical parameter (**Fig.02**).

Fig.02



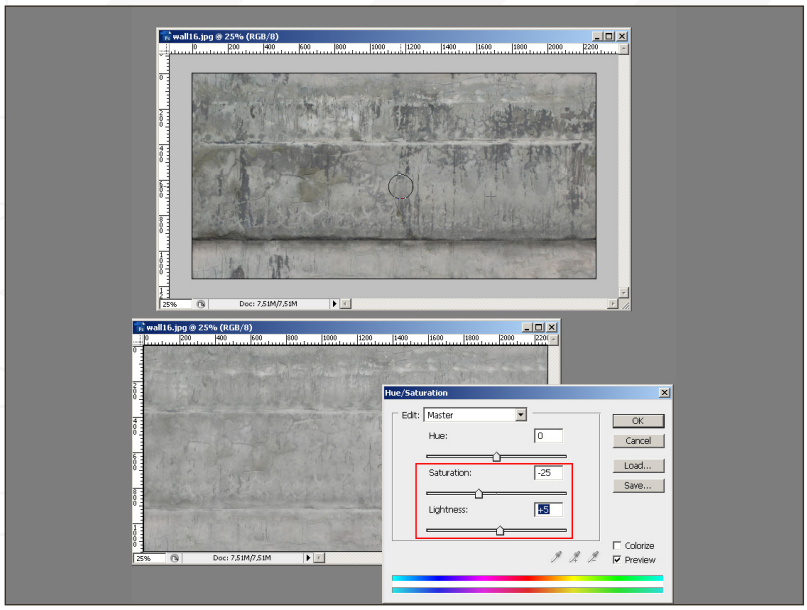


Fig.03

Remove the darker parts by using the Clone Stamp Tool. Now use Hue/Saturation (Image > Adjustments > Hue/Saturation) to adjust the Saturation and the Lightness of the image (**Fig.03**).

In Cinema4D, create a new material (I will call it "Concrete") and load the texture we just created into the Color channel. Assign the material to the column object. Select the Texture Tag to go in its properties; here change the Projection to "Cylindrical" and increase the Tiles Y value. I used a value of 1.5, but you feel free to find your setting (**Fig.04**).

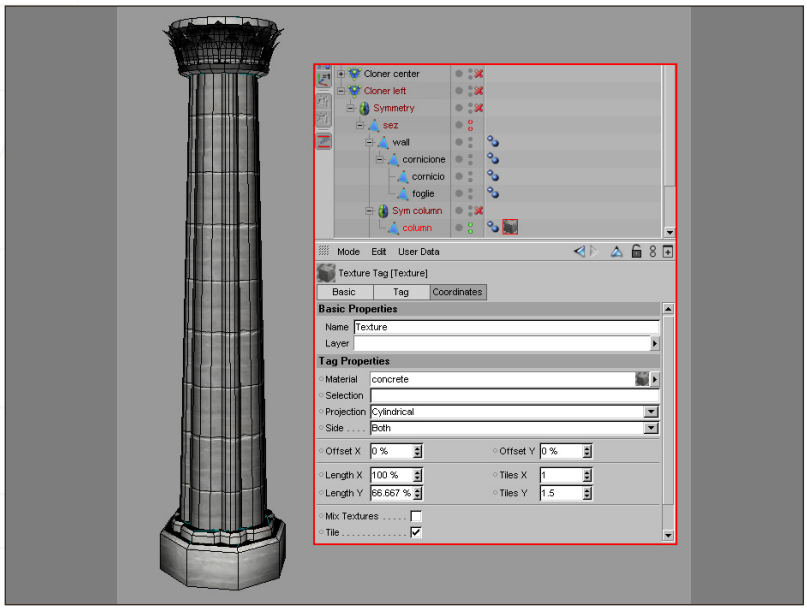


Fig.04

Projection is the way to place a texture onto an object. In this case, cylindrical mapping projects the texture onto the object in a cylindrical form. Tiling defines the repetition of the texture, so the tiles values are the number of times the texture is repeated onto the X length and Y length.

Now we may generate the UVW Coordinates, that allow us to modify the UVW mesh when it's necessary. So, choose "Generate UVW Coordinates" from the UVW Tag list, as shown to the left of **Fig.05**. The tag will appear in the Object Manager. The UVW mesh is displayed in the Texture Viewport of the BodyPaint UV Editor, as seen at the right of **Fig.05**.

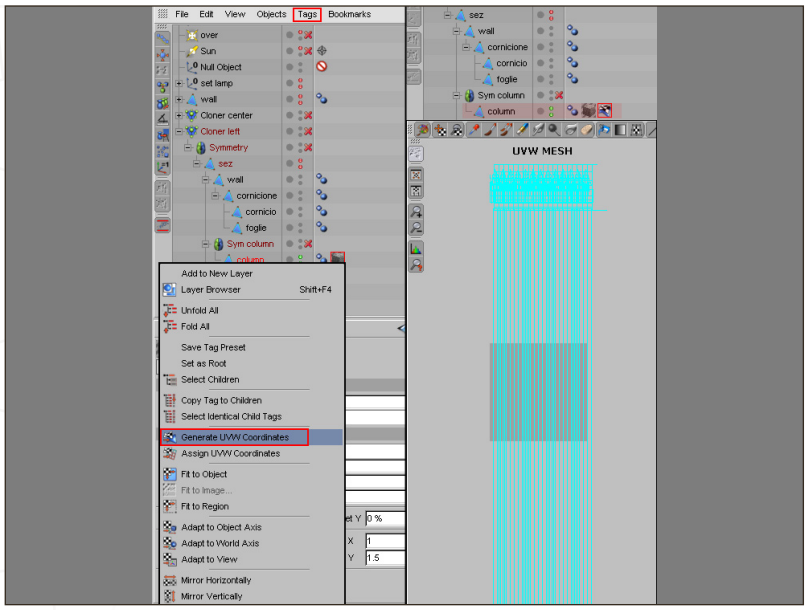


Fig.05

We want to modify the parameters of the Specular channel, so set the width to 80%, the height to 20% and the falloff to 10%. Now use Photoshop to modify the texture "wall16_n" (from the Total Textures V2:R2 collection). Use the Offset filter as we did for the wall16 texture. Wall16_n is a Normal texture, so load it into the Normal channel of the concrete material.

Normal Mapping is a technique that comes from video-game's industry. It allows us to give the low-poly object more details by using a simple texture. The Bump map is calculated based on a single channel image, the greyscale, while the source for the normals in normal mapping is a multichannel image derived from a set of more detailed version of the objects. The values of

each channel, R, G and B, usually represent the XYZ coordinates of the normal in the point corresponding to that texture pixel. The red channel is used to encode normal vectors in the X direction; the green channel encodes the normal vectors in the Y direction and the blue channel is used to encode normal vectors in the Z direction.

Coming back to our scene, load the texture into the normal channel, as shown in **Fig.06**.

As you can see from **Fig.06**, we have various parameters in the Normal control panel:
Strength - the strength of normal mapping
Method - there are three methods with which normal maps can be defined - Tangent, Object and World. They differ in the coordinate systems by which the normals are measured and stored
Flip X, Flip Y, Flip Z, Swap Y & Z - these settings let you switch all colour components. The most common method used is the Tangent, where the normal orientation is defined with respect to the underlying surface

You can also add a Specular map to the material (I have modified the texture "wall16_s" from Total Textures V2:R2). Load it into Specular Color channel (**Fig.07**).

Suppose you want to apply a different texture to the capital of the column? Well you can save a selection of polygons to which you can then apply another texture. Select the polygons and choose the Set Selection Tag to save the current selection. Give it a name. You can also apply a different texture to the ornaments of the column, so select the leaves and save the selection (**Fig.08**).

Now we need to create the materials which will be applied to these selections of polygons. I created the texture for the capital by changing the colour of the texture used for the column, while for the ornaments I used the texture "brown_05" from Total Textures V3:R2. Apply the materials to the object, then specify the name of the selection in the Texture Tag

Fig.06

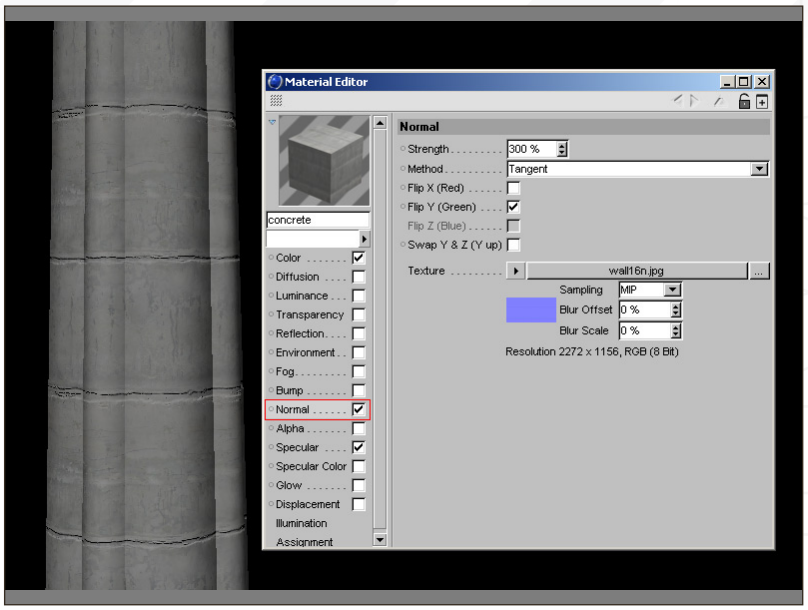


Fig.07

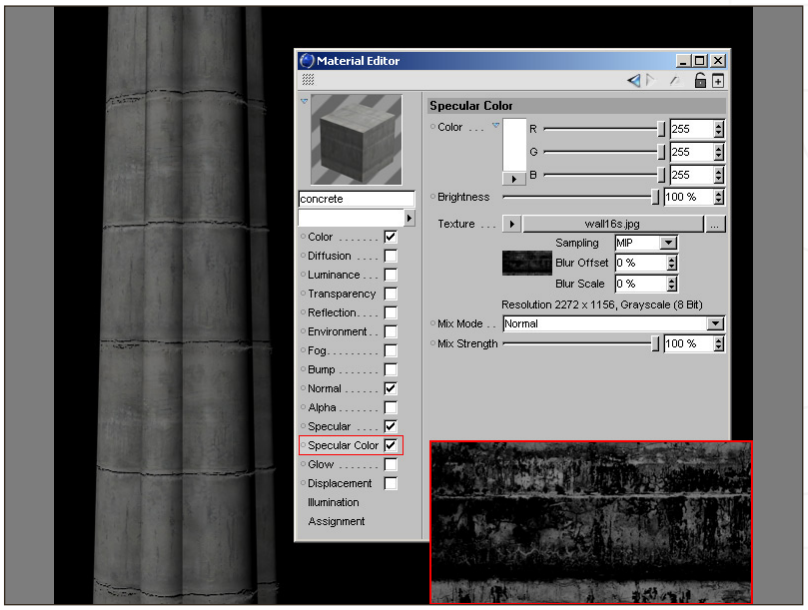
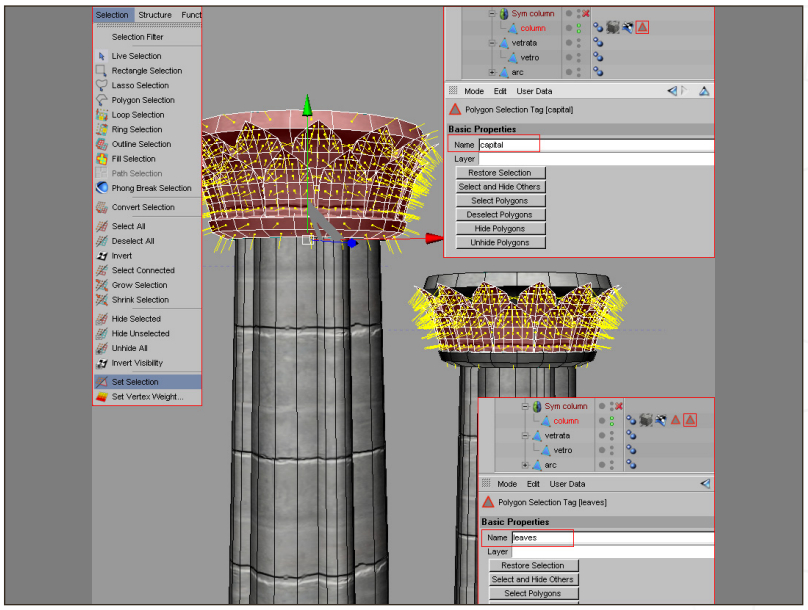


Fig.08



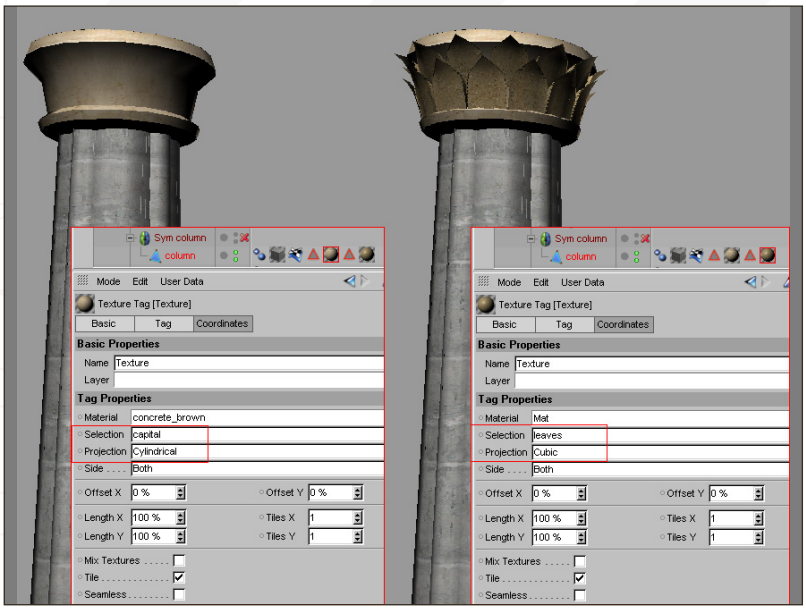


Fig.09

properties. Thus we have applied the material to the selection saved. When you assign the material to the selection saved, make sure that Texture Tag is close to Polygon Selection Tag. For the capital I used a Cylindrical projection, while the leaves uses a Cubic projection, as you can see in **Fig.09**.

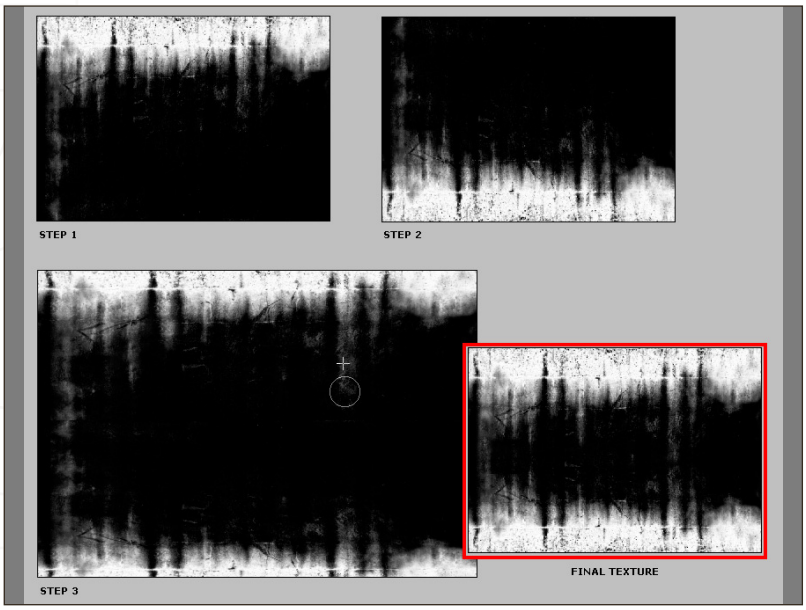


Fig.10

Complete the materials of the capital by adding Bump or Normal textures, a Specular Color texture, and setting the Specular level. Now we can see how to make a dirt map, which will be applied to column. So, take a look at the V5:R2 3DTotal Textures collection. I chose the texture “tile02medium10”. Open the file with Photoshop. Duplicate the layer then transform it by applying a flip vertical. Scale the layers vertically, then use the Clone Stamp Tool to modify the image. You can see the final texture in **Fig.10**.

In Cinema4D, create a new material. Load a texture in the Color channel - I used the texture “plaster06” from Total Textures V2:R2. Enable the Alpha channel and load the dirt map that we mad before as a texture. This channel enables us to use an image to mask out areas of the material that effectively become nonexistent, so that any underlying materials or objects show through. In **Fig.11** you can see the settings for the Alpha channel:

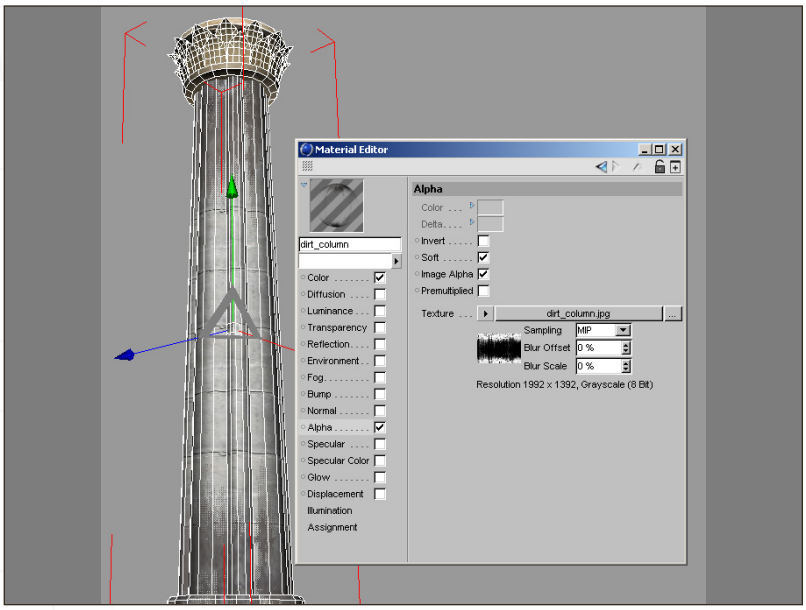


Fig.11

Color / Delta - you can use clip mapping to mask particular areas with a colour value

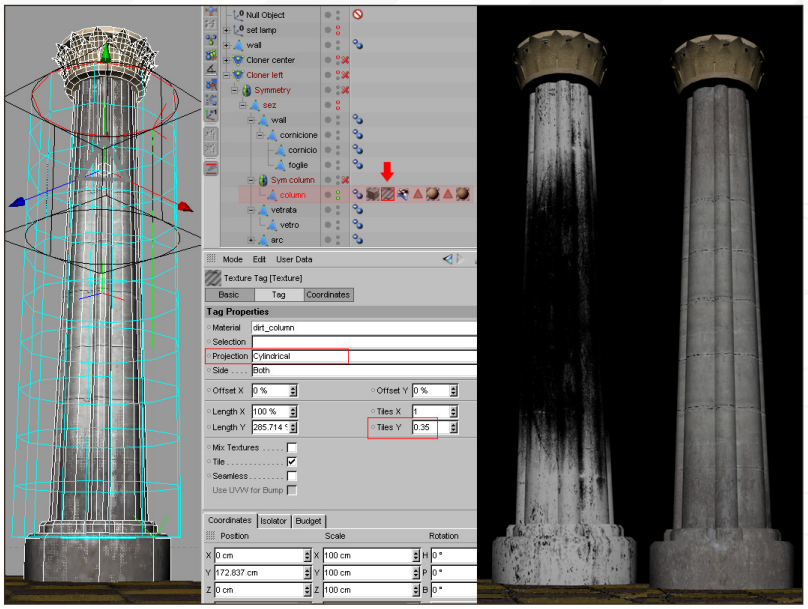
Invert - this option inverts the alpha, so transparent and solid areas are reversed

Soft - this allows you to fade textures and materials from one to another. When this option is enabled, the Color and Delta settings lose their meaning

Premultiplied - this is used for a texture with a premultiplied alpha channel

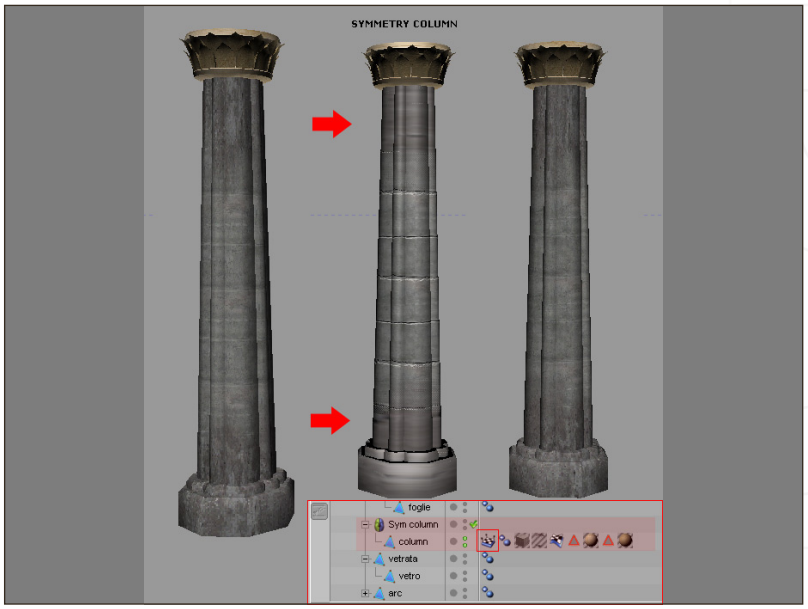
Assign the material to the column, making sure that its Texture Tag is close to the first Texture Tag. Apply the material in Cylindrical and modify the value of Tiles Y as seen in **Fig.12**. On the right side of this image, you can see how the Alpha channel works.

Fig.12



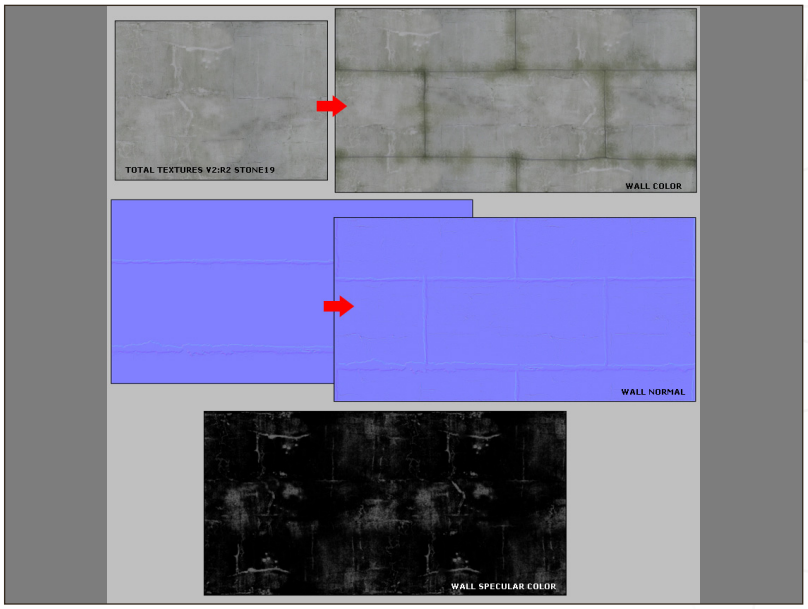
You may also load the Normal and Specular Color textures and find the settings for the Specular channel to complete the material. Now apply the Stick Texture Tag to the column - you can find this in the Cinema4D Tags list. This tag pins the textures down onto the object's surface, and locks it. As you can see from **Fig.13**, using Symmetry produces some defects (marked at the centre of the image) and we can avoid this by simply applying the Stick Texture Tag. Thus the column is completed!

Fig.13



Now it's time to create the texture for the wall. I used the texture "stone19" from Total Textures V2:R2. In Photoshop, change the background into a Layer, then enlarge the canvas - it should be twice as large. Duplicate the layer and move it. Using the Clone Stamp tool, modify the image in order to obtain different details. Use the Brush tool to draw the rot and dirt. Now modify the Normal texture that we used for the column; cut, copy and paste the reliefs. You may also want to combine the Normal texture of "stone19" with the "wall_normal". Finally, make the Specular Color texture by modifying the texture "stone19_s" as shown at the bottom (**Fig.14**).

Fig.14



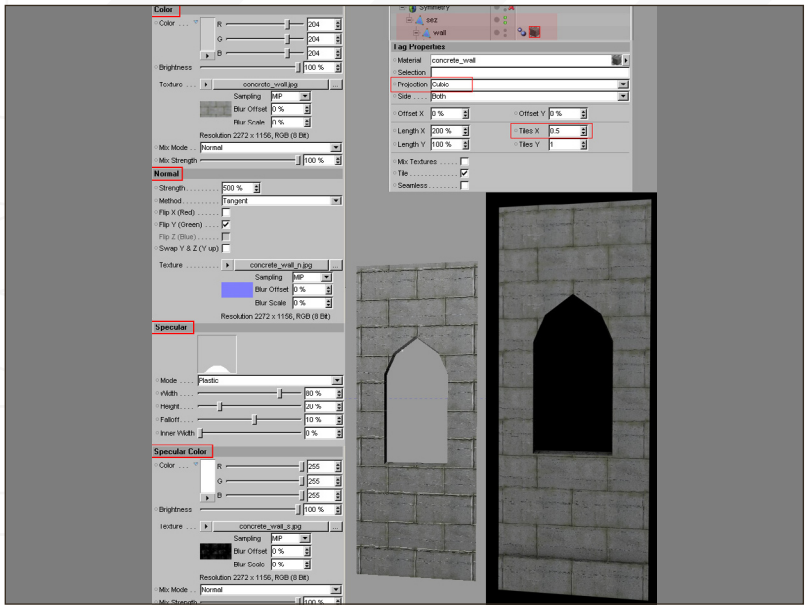


Fig.15

In Cinema4D, create a new material (I called it "concrete_wall") and load the textures we just created. Assign the material to the wall and project it in Cubic. Change the Tiles X value to 0,5 (Length X = 200%). In **Fig.15** you can see my settings for the concrete_wall material.

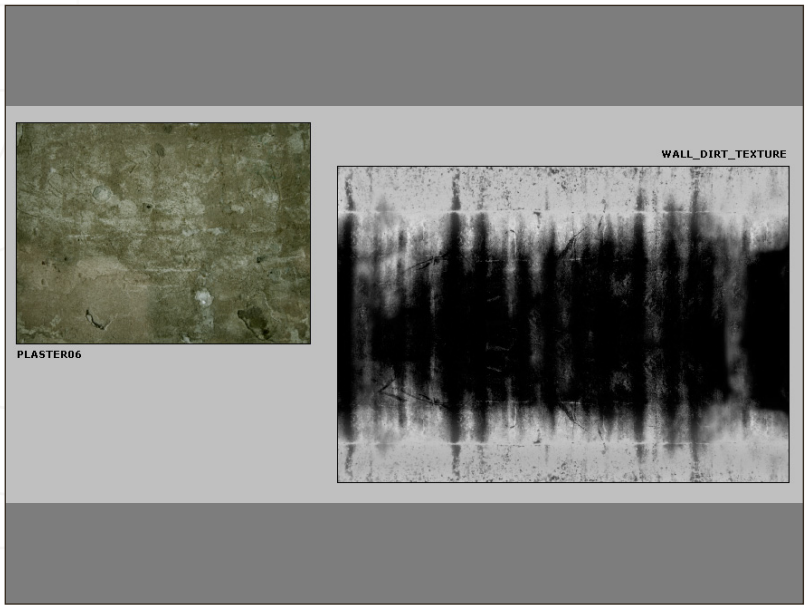


Fig.16

We now want to add the dirt map to the wall object. So create a new material and load a texture into the Color channel - I still used the texture "plaster06" from Total Textures V2:R2, but I modified its colour to a dark green. Draw the dirt map by starting from the dirt map we used for the column. I changed the gray scale and I added some details as you can see in **Fig.16.**

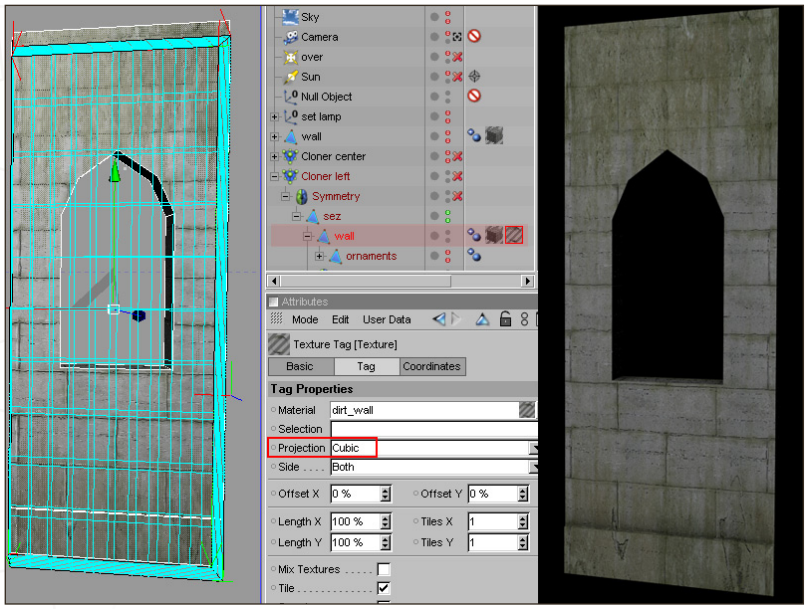
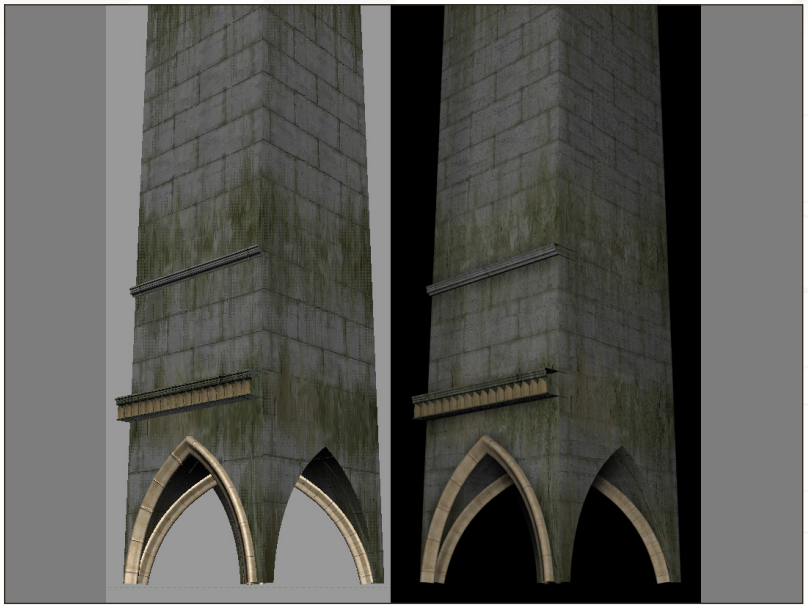


Fig.17

Load the dirt map in the Alpha channel and use the settings we used for the column. Assign the material to the wall and use the Cubic projection then apply the Tag "Fit to Object". Complete the material, by adding the Normal and Specular Color textures and setting the Specular level. At the right of **Fig.17**, you can see a render of the wall.

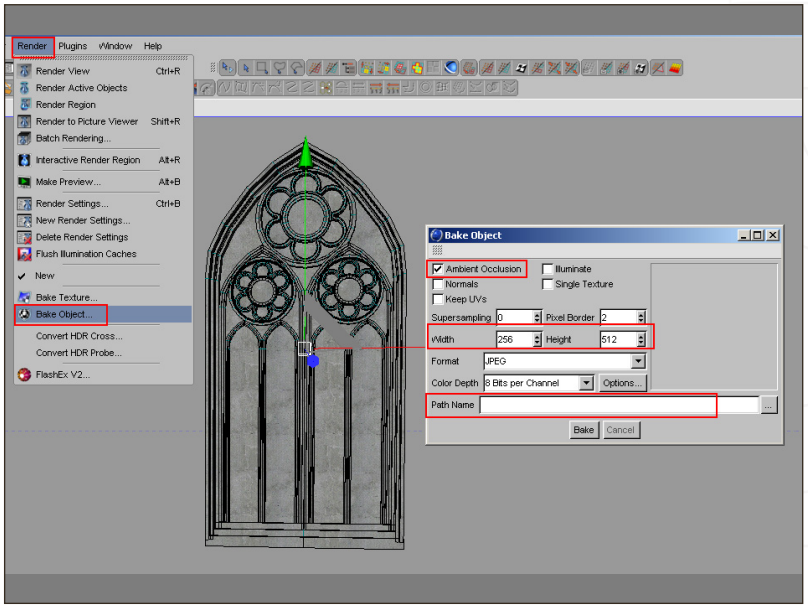
We can use this material for the vaulted ceiling and for the other walls that are into the scene. In **Fig.18** you can see the vaulted ceiling of the aisle. Apply the texture in Cubic and change the value of Tiles X to 0,5, as we did for the wall. As you can see from the image, I used a different material for the frame and the leaves. For the frame of arc I used the same texture as the capital, while for the leaves I used the texture "brown_05" from Total Textures V3:R2.

Fig.18



Now let's see look at how to do the window. Create a new material which will be applied to the frame of windows, the small and big window. Use Cubic projection. I loaded the texture "stone19" in the Color channel, "stone19_n" in the Normal channel and "stone19_s" in the Specular Color channel. Set the Specular as we did for the other stone materials (Width = 80%, Height = 20%, Falloff = 10%). Now select the window object and use the Bake Object command, which can be find in the Render menu. Set the parameters in the window that opens; enable the Ambient Occlusion, enter a value for Width and Height, enter the path where the files will be saved (**Fig.19**).

Fig.19



Click on the Bake button and Cinema4D will start to calculate the Ambient Occlusion for all textures of the object. At the end of the computing, Cinema4D will create a copy of the object with the materials; since we need just the Ambient Occlusion file, we can delete the copy of the object. So go to the folder where you saved the files and delete the other files, keeping just the Ambient Occlusion image. In Photoshop, open the Ambient Occlusion image and convert the Background to layer (I will call this layer AO). Select the white parts and delete them. Create a new layer (layer 0) and put it under the AO layer. Fill the colours as you can see in **Fig.20**. Duplicate the "layer 0" and apply the Stained Glass filter, which you can find in the Filter > Texture list. In **Fig.20** you can see

Fig.20

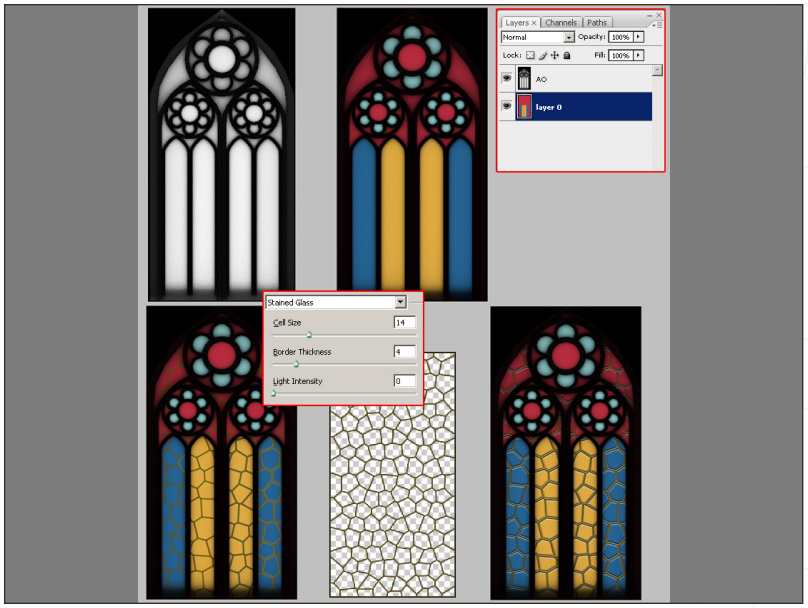


Fig.21

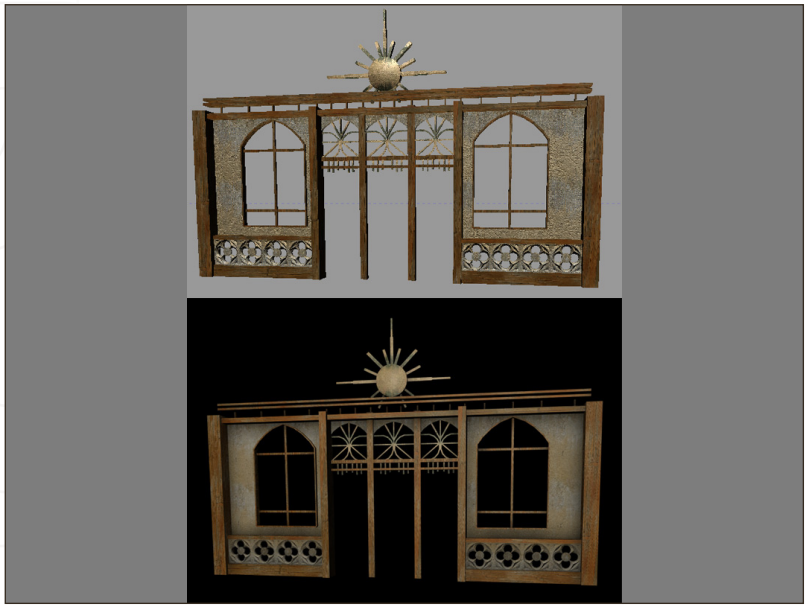


Fig.22

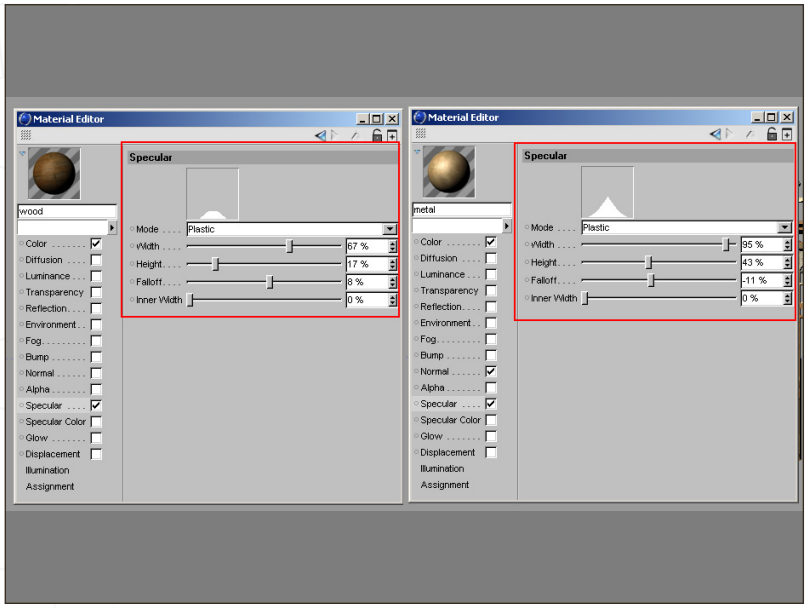


Fig.23

the settings for the stained glass filter. Now select the border by using the Magic Wand Tool, invert the selection and delete as shown at the bottom centre of the image. I called this layer “stained glass”. Last, apply a “Bevel and Emboss” effect to the “stained glass” layer. In the Layer style windows, choose the Pillow Emboss style, Size = 1px, Angle = 90°.

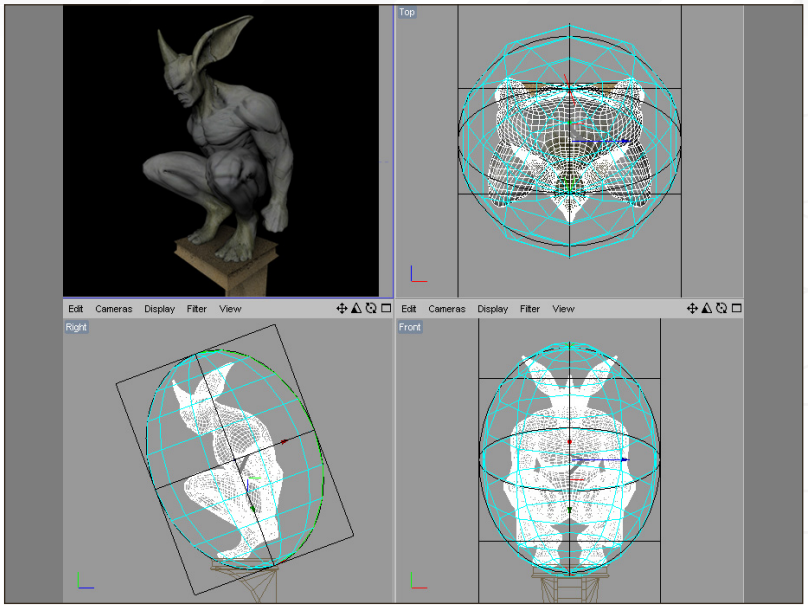
Now create the Alpha texture, as shown on the left of **Fig.21**. In Cinema4D, create a new material, which will be applied to the glass object, then choose the proper projection and generate the UVW coordinates. Load the texture in the Color and Luminance channel. Load the Alpha texture in the Alpha channel. Modify the Specular parameters (set Width to 10%, Height to 100%, Falloff to 30%). A render of the window can be seen on the right of **Fig.21**. The gray of the alpha texture defines the transparency of the glass, so if you want the glass to be more transparent, you should make the gray darker and so on.

The next object is the altar. I used three different materials: wood for stakes, stone for the wall and metal for the ornaments located at the top. So, save the selections of polygons for the stone and ornaments and then apply the materials. Remember to also apply the dirt maps to the saved selections. **Fig.22** shows the altar in the 3D view (top of the image) and a render of it (bottom of the image).

Finally, take a look at the settings of the Specular channel for the wood and metal materials (**Fig23**).

For the gargoyle statue, I used the texture "stone19" from Total Textures V2:R2. The Normal texture has already been generated in ZBrush. Apply a dirt map, use the Spherical projection, and then modify the cage of the projection by using the Texture Axis Tool, as shown in **Fig.24**.

Fig.24



Here you can see the finished interior of the Gothic church (**Fig.25**).

Fig.25

Here you can see a render of the Gothic church (**Fig.26**).

Fig.26

GOTHIC CHURCH
INTERIOR CREATION
PART 3: TEXTURING

NIKI BARTUCCI

For more from this artist visit:

www.pikoandniki.com

Or contact:

niki@pikoandniki.com

lightwave

Gothic Church

Interior Creation

This series will provide an overview of the principal techniques used to create a gothic interior based upon a concept painting, along with a tutorial on the process of sculpting a gargoyle character in ZBrush. Key methods covering modelling, texturing, lighting and rendering will be outlined over the course of the series and culminate in a chapter on post production and how to composite numerous render passes into a final image.

The schedule is as follows:

PART 1: This tutorial will outline some of the prominent approaches to building the church interior. We will cover some of the key methods and modifiers responsible for creating the scene and core geometry.

PART 2: Will focus on the creation of the gargoyle which will be mounted on one of the columns. This tutorial will orientate around ZBrush and its powerful sculpting tools and show how a detailed model can evolve from simple ZSpheres.

PART 3: This part will detail the texturing phase of the series and deal with mapping and unwrapping key areas of geometry alongside the gargoyle.

PART 4: Lighting and rendering will be the focus in this tutorial. Light rigs and a variety of render passes will be explained in readiness for Part 5; the post production.

PART 5: This, the final part of the series, will show how the various render passes are composited in Photoshop to create a final render. An account of some of Photoshop's tools will show how versatile this approach can be and show the value of multiple passes for post production.

FREE RESOURCES
DOWNLOAD HERE

Gothic Church
INTERIOR CREATION
PART 3: TEXTURING

CREATED IN:

LightWave

PART 3

Welcome to the third part of this tutorial series. In this chapter we are going to texture the previously modelled objects. For this tutorial, I am using LightWave 9.6, but older software version users should have no problem following this tutorial, as I am trying to use the most commonly used techniques. So let's get started!

Let's start with the gargoyle model that was created in ZBrush in the last chapter of this series. We are going to create a normal map for the low resolution mesh, based on the high resolution model. So load each model in LightWave – low-res and high-res – into separate layers. Create the UV map for the low-res mesh by simply using the atlas mapping type. Normalise the map by scaling the map so that it fits the whole UV space (**Fig.01**).

Select the first layer with the low-res mesh and put the second layer in the background. Start up the free plug-in, "Normalmapcreate.p"*. Choose the UV texture you just created and set a rather high texture resolution – it should be rather big, around 5000 x 5000 pixels (**Fig.02**).

*The plug-in, "NormalMapCreate.p" is included in a collection for the use of normal maps for older versions of LightWave prior to version 9.0. You can download the archive "NormalMaps.zip" from the following location **here**. For any higher versions of LightWave (above 9.0), you can download the DP Kit from Denis Pontonier.

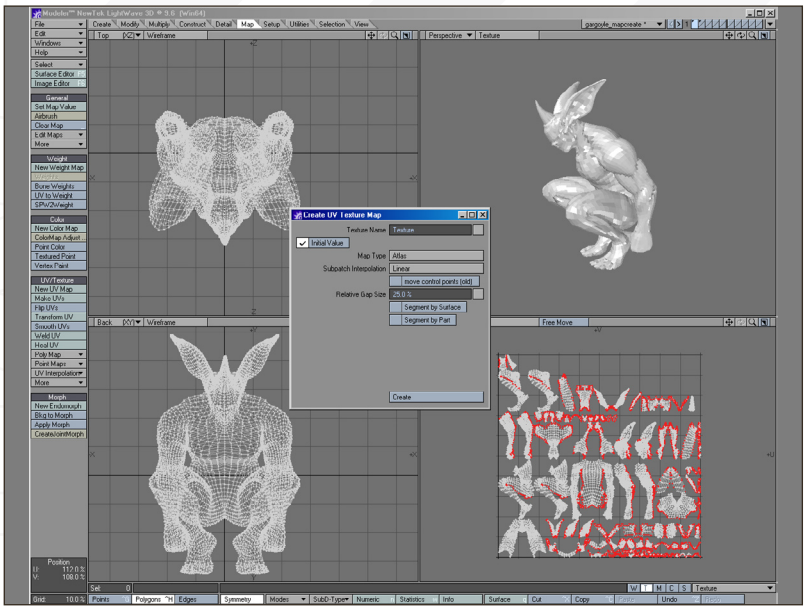


Fig.01

The plug-in "Normal Cast" works in a very similar way to the one mentioned above. A detailed description on how to use it can be found on the following website **here**.

Load the low-res gargoyle into a new layer of the church model. Place and scale it directly onto the plinth at the right front column. You could also do the scaling and placement of this element in Layout. But if you do it in Modeller it makes texturing much easier, as everything has the same scale. When you are done, assign a new material to the gargoyle. In Layout, load up the basic church scene you used while modelling and add the gargoyle model (**Fig.03**).

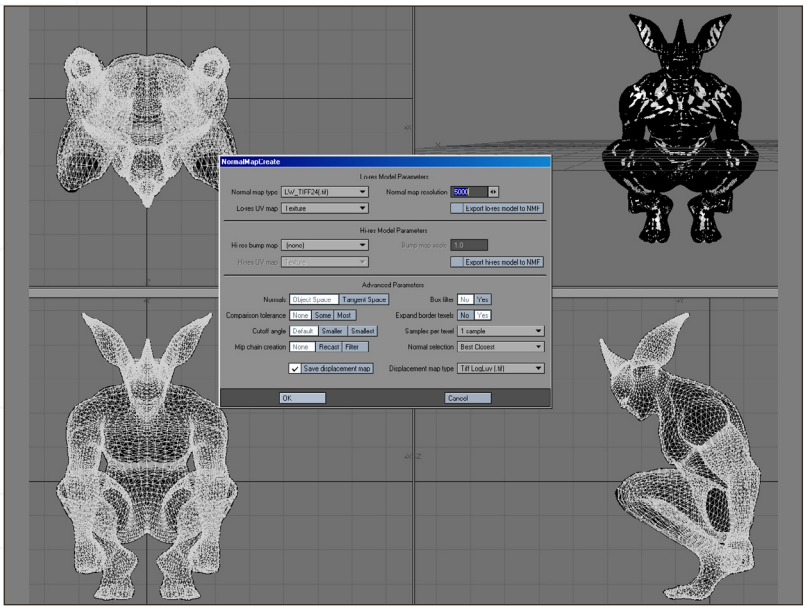


Fig.02

Open the Surface Editor and check "Edit Nodes". In Node Editor, add a new node: 2D Textures > Normal Map. Plug the Node "Normal" output into the Surface "Normal" input, as shown in **Fig.04** (#1 shows the normal map in use, #2 is the render without normal map). For your normal map, load the previously created map (see **Fig.02**). Don't turn on Smoothing for this surface, as it would result in artefacts through the use of the normal map.

Before we continue on the gargoyle texturing, let's create the textures of the columns first. It is usually a good idea to start on the bigger parts and define the overall look before moving onto the smaller parts to add detail. In Modeller, select one complete column and click on "New UV Map". Choose Cylindrical mapping via the Y-axis. As we are using sub-patched geometry for the columns, choose the Subpatch Interpolation mode. Don't close the texture tab just yet; select each column separately and click on Create until all the columns have the same UV map (**Fig.05**). If you have not already done so, create a new material for the columns.

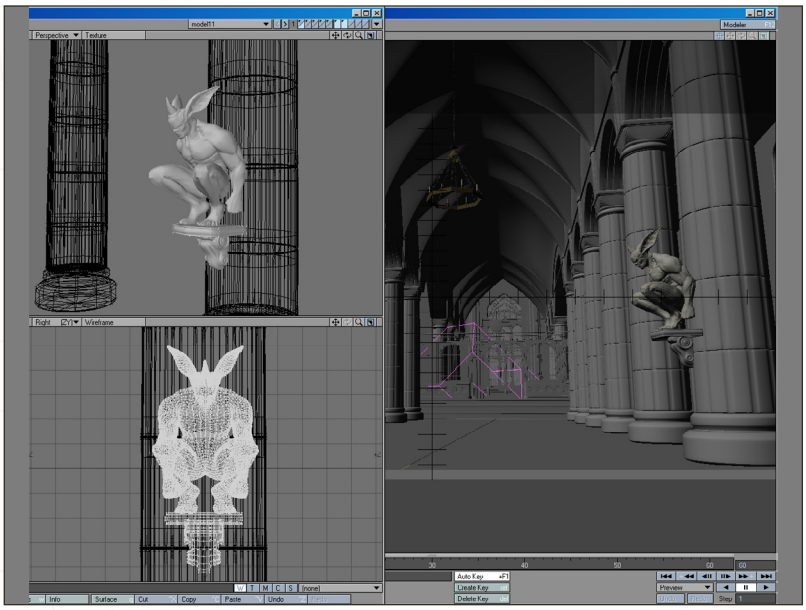


Fig.03

Open the Surface Editor and add the base colour texture. Columns can be made out of one block of stone or marble, but can also be made of brick that is coated with layers of plaster. Let's aim for the second type of column, so choose an appropriate texture from the Total Textures

collection, such as Nepal_18.jpg. For projection type, select “UV”, and for the map select the map you just created, called “Texture” (**Fig.06**).

In the UV Texture window, scale the created map, for example at about 200% via the U-axis and 400% via the V-axis. Remember to use values that respect the tiling of the map – if you scale it around values like 120%, you will get notable seams.

Note that I put everything into the same UV texture. I only use different names for UV maps for additional mappings, for example different scalings of the same map. Other elements or objects use the same maps again. This way, I could even interchange my materials from one object to another.

Make a copy of the UV map named “Texture”. Add another material layer; this will be representing the coating of the brick base. (The image I am using is called misc19.jpg). As the UV map, select the second UV map named “TextureLayer2”. Now scale this texture in the UV Texture viewport, again until the new texture layer appears fitting. Remember to use correct values for the tiling, like 50% for both the U and V-axis (**Fig.07**).

Now we need a blend map for the two material layers. Add a new material layer and select a dirt map, like tile04heavy01.jpg. Select the “TextureLayer2” UV map. Set blending mode to “Alpha” so it influences the visibility of the plaster layer (**Fig.08**). You can add many different alpha maps. For example, you can combine it with a Turbulence procedural map. Also set its blending mode to alpha and have it above the layer it should influence. You can also bring in more variety by scaling and moving the map of each column a bit differently – just select one column at a time and adjust both texture maps in the UV Texture viewport.

Tip: You can preview the material layers via Open GL. Just select GLSLShaders as the shading method and enable Multitexture in

Fig.04

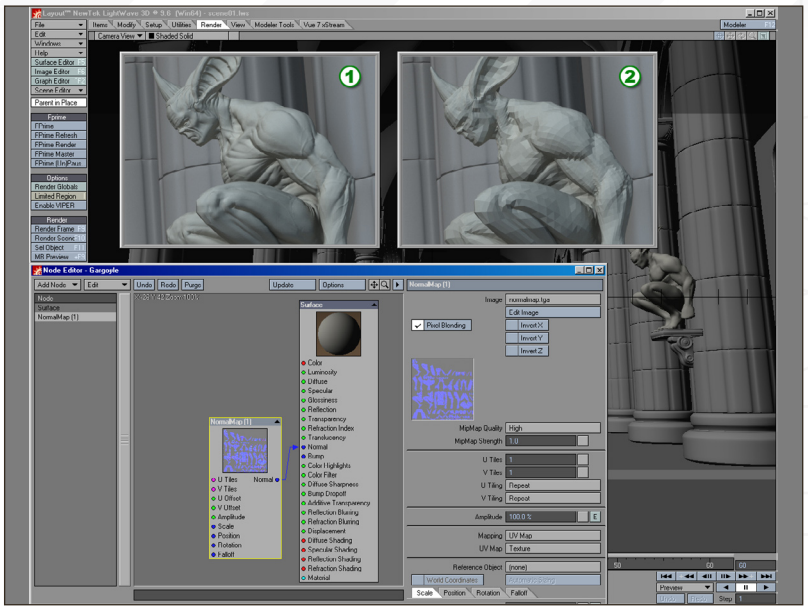


Fig.05

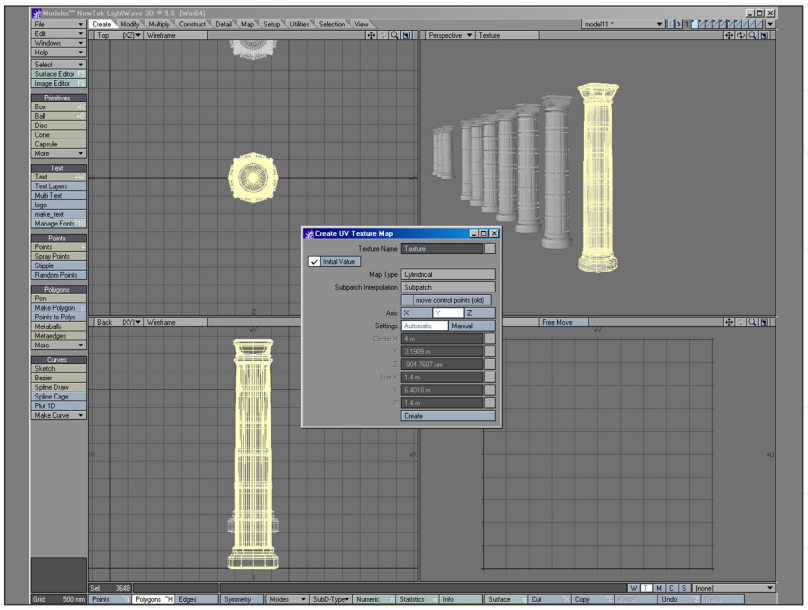
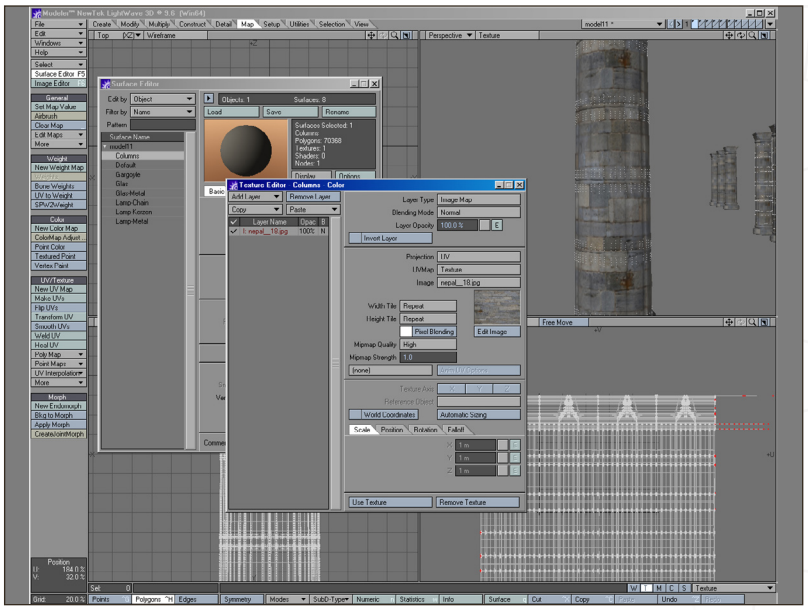


Fig.06



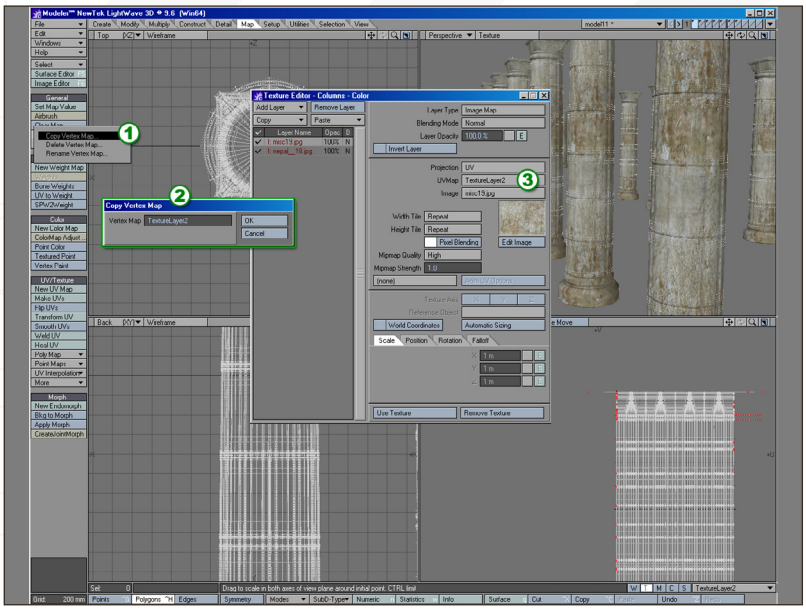


Fig.07

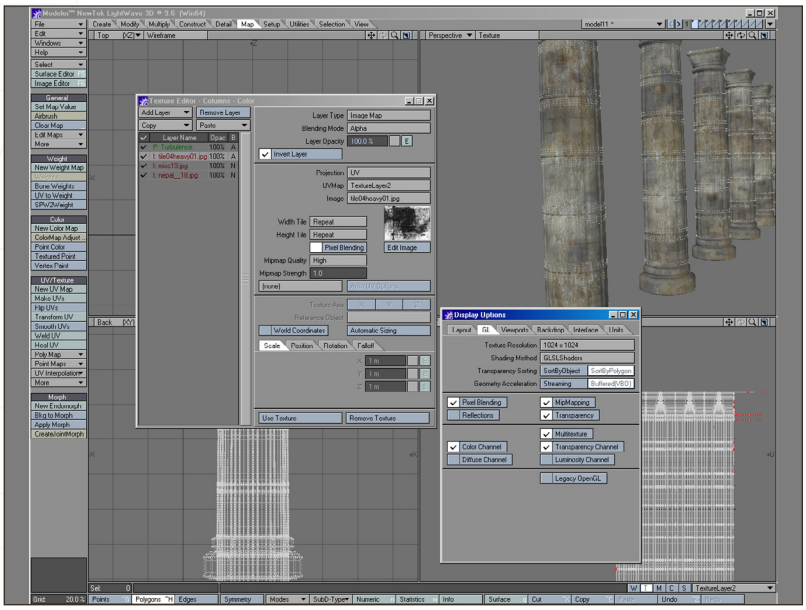


Fig.08

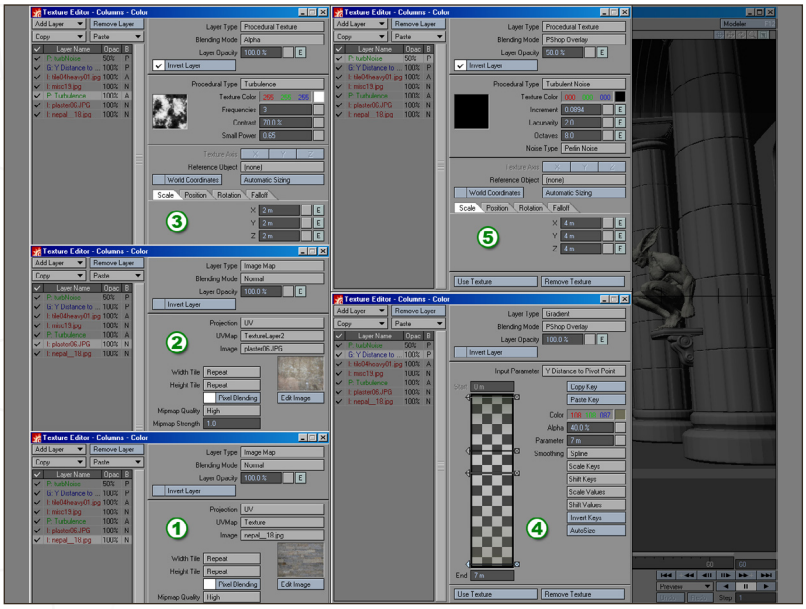


Fig.09

your GL settings. Don't forget to turn it back to MultitextureShaders once you are done, as this setting is much faster to work with.

Back in Layout, we can now finish the column material (**Fig.09**) and add a few more textures to the colour channel:

#1. Brick base – the texture map has been scaled up, so the bricks appear much smaller.

#2. Another plaster map has been added; the visibility is controlled via a turbulence procedural texture.

#3. The other plaster from **Fig.07** and its alpha layer has not been changed.

#4. A gradient makes the top and the bottom of the column a bit darker and greenish. The input parameter of the gradient has been changed to "Y Distance to Pivot Point". As the pivot is on the ground, the parameter shows you the correct height of the key you set on the gradient. The Blending Mode is set to "Overlay".

#5. A procedural dirt layer has been added on top of all the layers.

Make a test render. If you are satisfied with the colour map, add the bump and specular maps. This is rather easy, as we are using the unchanged textures from the Total Textures collection – which come with according bump and specular maps (**Fig.10**).

Copy all material layers from the colour channel and paste them into the bump channel. Replace all the colour maps with the corresponding bump maps and remove the ones you don't need. Note that for the base brick layer, I used very high values for bump. Also, I added a second layer (**#2**) using the brick specular map. This helps to bring out single stones a bit more. Always set Blending Mode to "Additive" when you are using no alpha, otherwise the layer below won't have any effect on the bump. Layer (**#3**), for example, is controlled via an alpha map (**#4**). Here the Blending Mode needs to be set to Normal, because we don't want the underlying bricks to be visible (**Fig.11**).

Tip: The Texture Amplitude defines how high the

bump is going to be. It is very different for each texture, so you have to try some settings before you know what settings result in a good look. To make it a bit easier, open the bump map in Photoshop and use “Auto Contrast” – this way the Texture Amplitude is much easier to set as all maps react similarly.

For the specular channel, again copy all the layers from the colour channel. Replace all colour maps with the according specular map. You can keep the layers pretty much as they are from the colour map – just change the Blending Mode to Additive if required and remove the gradient layer. The Texture Value for the procedural dirt layer is set to 0 and the Blending Mode is set to “Multiply”. Layer Opacity is set to 50%. In the colour channel, this layer creates dark dirt on the material. Here in the specular channel, the layer defines that the dirty areas are less shiny (**Fig.12**).

In the Surface editor, use a very high bump value of 200%. The Specularity is controlled via the texture maps, so the setting is not important. As it is stone, the glossiness should not be too high – 20% is a good value. You can also use a bit of reflection, which might give the surface a wet look in the end.

Now that the bump and specular channel is complete, add another gradient with the Input Parameter set to Bump. This layer helps to bring more depth to the surface, by getting brighter with the upper bump layers. On the other hand, the deeper the cracks and bumps are, the darker they get (**Fig.13**).

Now that we have the columns, we can finish the gargoyle. Make sure to do this rather subtly, as we don’t want to destroy the details of the normal map. Copy the layers of colour, bump and specular, as well as the material settings from the columns over to the gargoyle; if you copy the complete material, you have to create the node connection for the normal map again. Create a new perspective camera, called “ProjectionCam”. Have it in the same place as

Fig.10

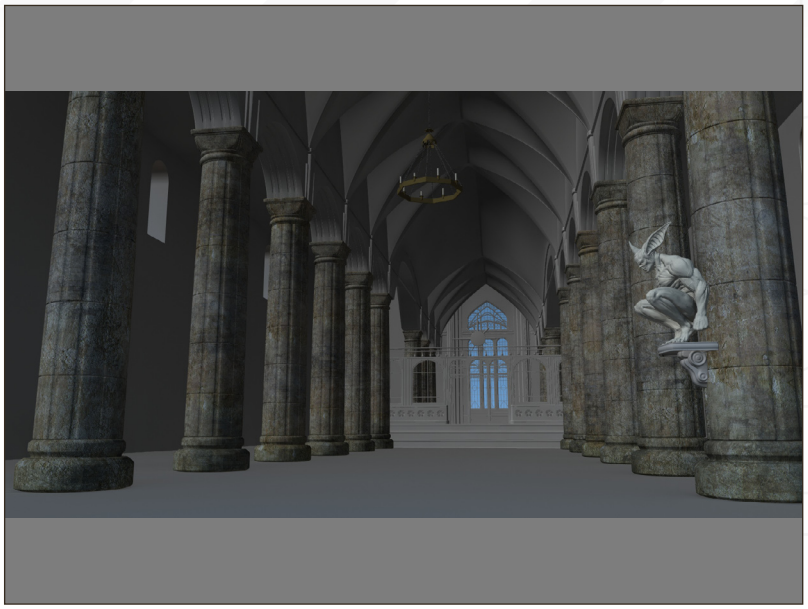


Fig.11

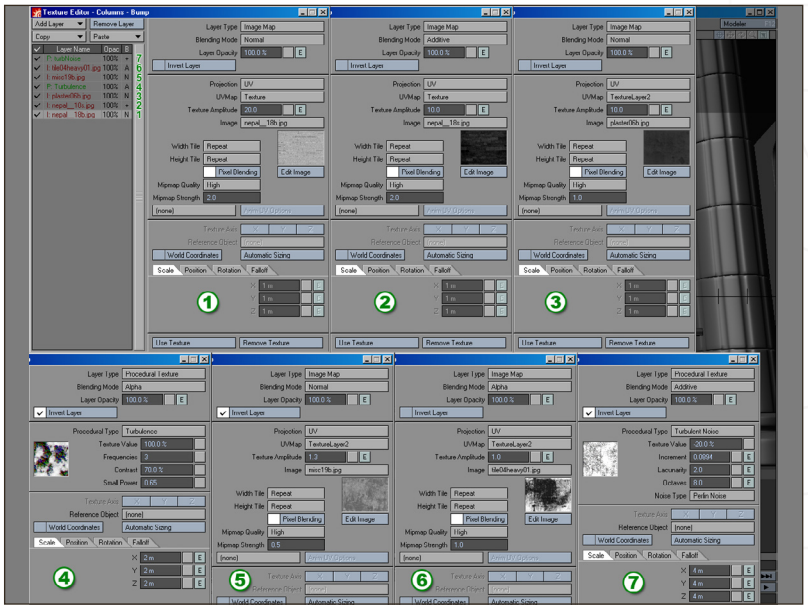
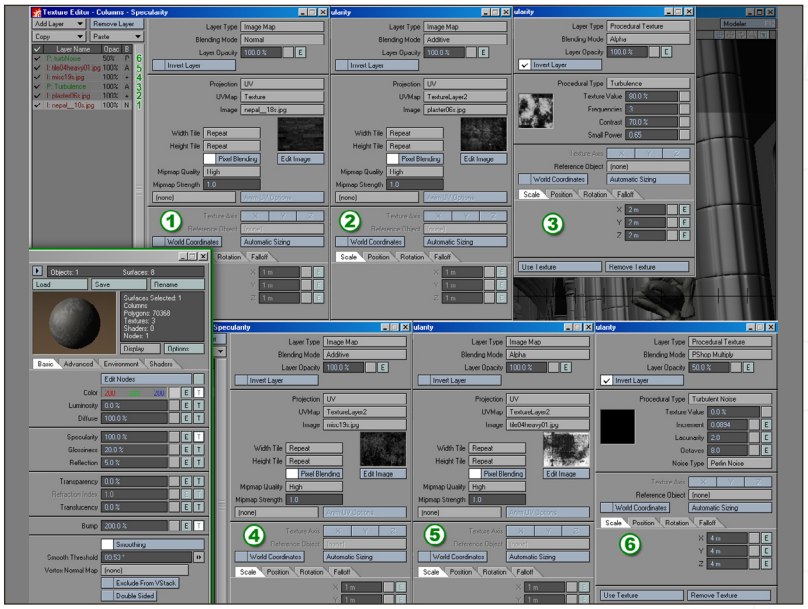


Fig.12



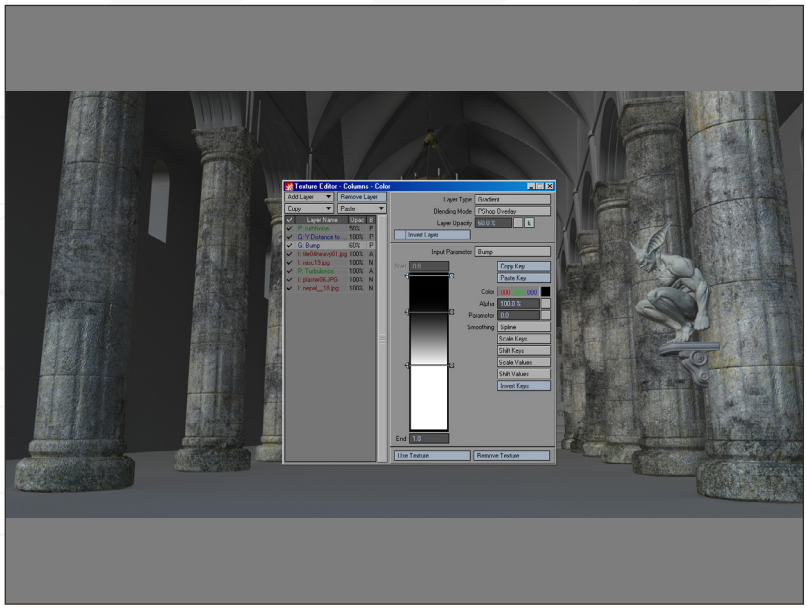


Fig.13

your original camera, but rotate it so you have the gargoyle in view. Also use a high lens focal length to zoom in (**Fig.14**).

As we don't have a proper mapping on the gargoyle, the camera will be used for camera projection. So whenever you have a texture map that uses UV mapping, change the Projection to "Front". As Reference Camera, set the ProjectionCam.

You can keep the gargoyle material much more simple than the column material. You don't need the brick texture and also no complicated alpha map for the blending. As the surface is much smaller, you don't need so much variation.

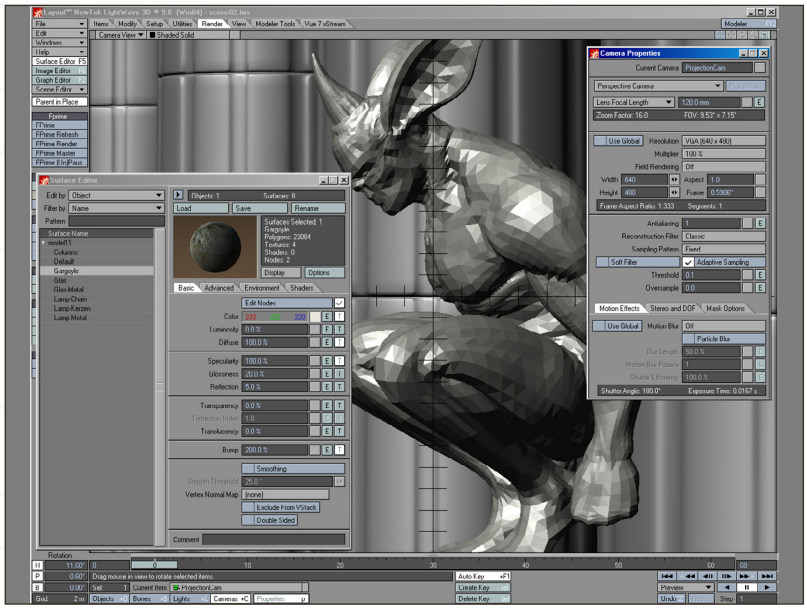


Fig.14

Add a Gradient to the diffuse channel. It uses Incidence Angle as the Input Parameter.
The gradient is set so that parts that face the camera are darker, while the edges that don't face the camera appear brighter. This helps to accentuate the silhouette of the object. The gradient can be copied to the diffuse channel of other materials, as well (**Fig.15**).

Have a look at the test render. The gargoyle now blends in really well. The projection mapping, of course, only works perfectly for this camera view or with very limited camera movement. So you have to plan carefully what you would like to do with this kind of mapping (**Fig.16**).

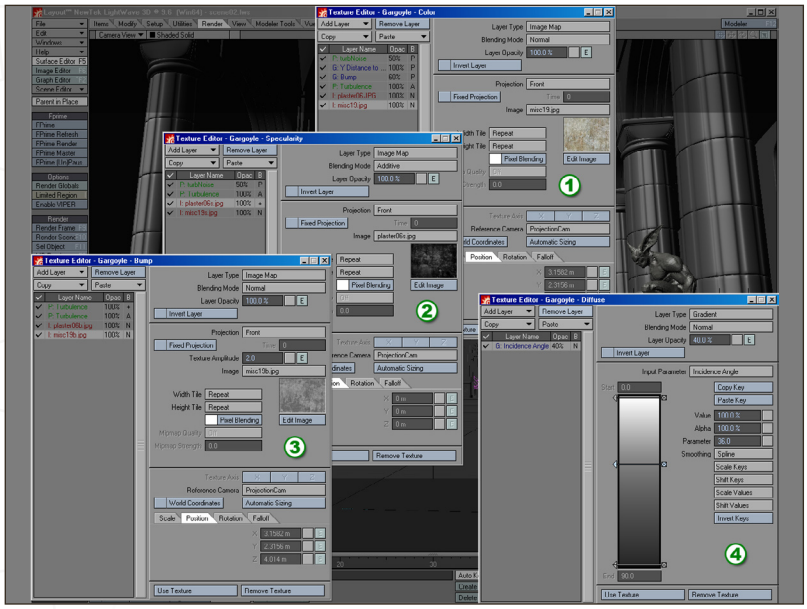


Fig.15

Let's continue now with the stained glass. In Modeller, hide everything but the glass and the metal frames of the glass. Select only the glass and create a new planar texture map. Also make a screenshot of both glass and metal frames in front view. This screenshot will be your background in Photoshop and will serve as reference for aspect ratio and placement (**Fig.17**).

In Photoshop work on your pasted mesh screenshot (**Fig.18 – #1**). Search the Internet, or your own photos, for images with religious themes, or at least something that resembles

such images (**#2**). Choose: Filter > Texture > Stained Glass. I used a Cell Size of 3, Border Thickness of 2 and a Light Intensity of 1. Bigger cells might even work better (**#3**). Do some colour correction, give the image more contrast and make it more colourful (Image Adjustments > Equalize, Hue/Saturation). Save this image as your colour map (**#4**). Start from **#3** again and desaturate the image. Use: Image Adjustments > Shadow/Highlight. Reduce the shadows by 100%. Use a Tonal Width of 35% and a Radius of 8 pixels. Save this image as your bump map (**#5**).

Go back into LightWave Layout now. The glass material is rather simple. Use 100% of Specularity, 10% Reflection, 10% Transparency and 100% Translucency. Stained glass is usually neither very transparent nor very reflecting because of the rather old glass pieces. For the colour channel, use the colour map with the UV map we created. For Specularity, Transparency and Translucency use the same black and white alpha map. Be sure to check "Inverted". The Bump channel uses the same black and white map, but it is not inverted and used with Blending Mode set to "Normal" (**Fig.19**).

When you make a test render, you should see that the image works pretty well. Of course you can optimise the look if you like, by using different colours in each of the small window frames. As you have the Photoshop template, this is very easy to accomplish.

For the altar material we will, as usual, begin with the colour map. We will use only standard mapping methods for this one, so we don't need to create UV maps (**Fig.20**). For the base layer, select an appropriate texture from the Total Textures collection (I chose brown05.jpg) as and map it via cubic mapping (**#1**). To make a transition from the surrounding walls and columns, use the same map from the columns for blending: misc19.jpg (**#2**). Use Planar mapping from the front and Blending Mode set to "Soft Light". This map should not be visible on

Fig.16

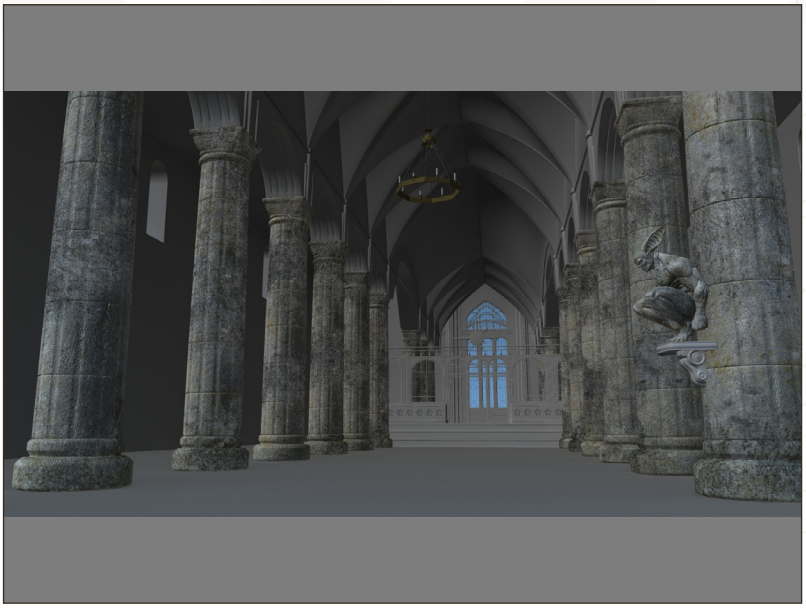


Fig.17

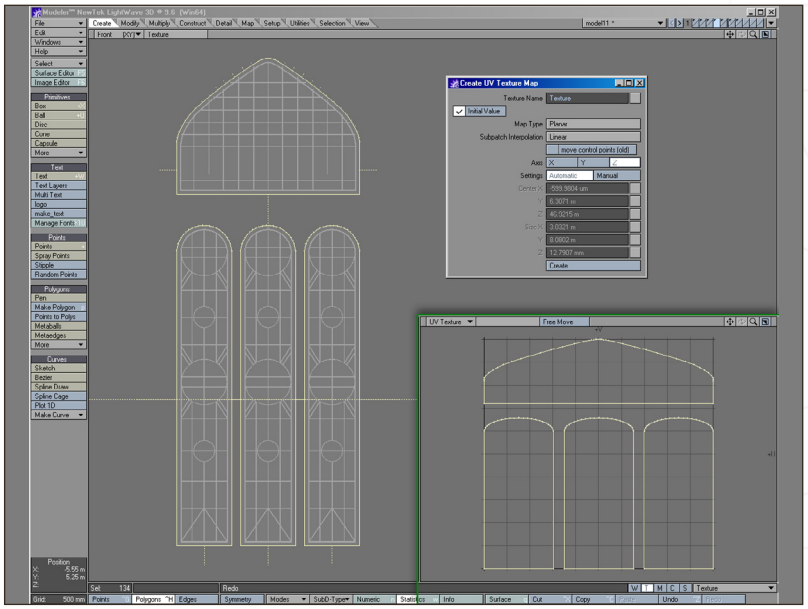
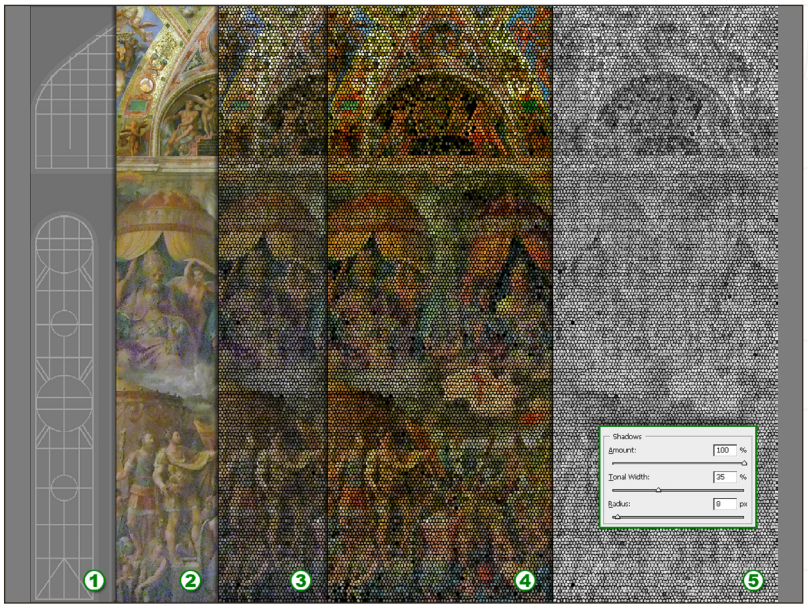


Fig.18



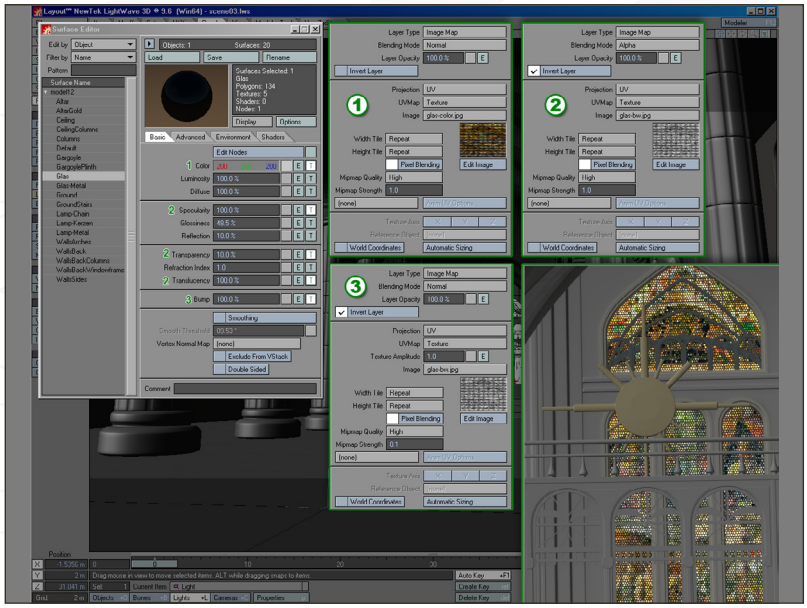


Fig.19

the whole surface, it would be too dominating. So use a gradient to fade the map above 1.5 meters (**#3**). Set the Blending Mode to “Alpha” and the Input Parameter to “Y Distance to Pivot Point”.

Via the “Multiply” Blending Mode, put a dirt map such as tile02heavy_16.jpg on top of the layers. Scale and place it so that the visible white edge match the edge of the geometry (**#4**). Take the previously used tile04heavy01.jpg and invert and multiply it to create more dirt variation (**#5**). To make the surface seem a bit more used on top, use a gradient with input parameter set to “Slope” as this serves to make the polygons facing upwards a bit brighter than the rest (**#6**). For the final layer, use a procedural texture that is blended via “Overlay”. This helps to bring in a bit more variety.

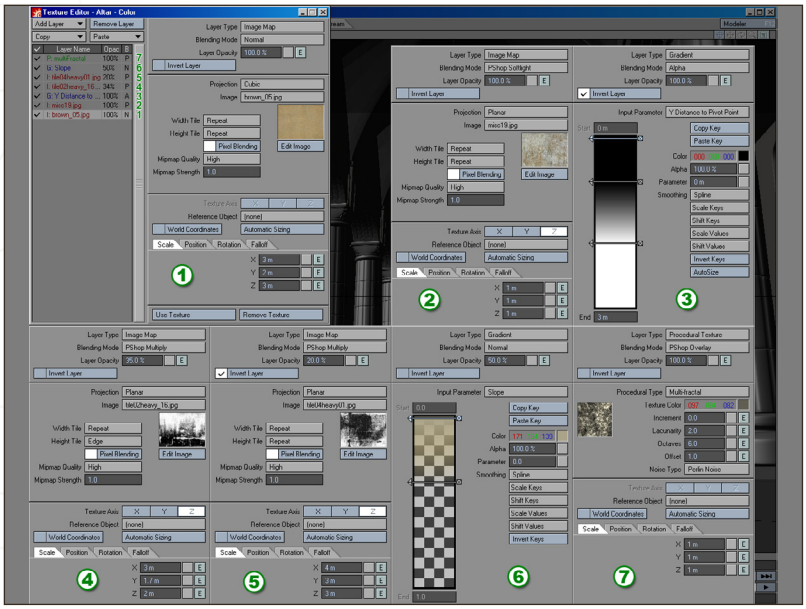


Fig.20

The material is very similar to the ones we’ve already created and the diffuse channel uses the same gradient as the columns. Set Specularity is to 20%, Glossiness to 30%. On the specularity channel, use the according brown_05s.jpg map. Set the blending mode to Additive – this way the map is added to the 20% you choose in the material settings. The dirt maps make the material less shiny again, as dirt is also usually not that shiny. The bump map can be very simple this time, you only need to use the brown_05b.jpg map with the same scaling and placement as the colour map.

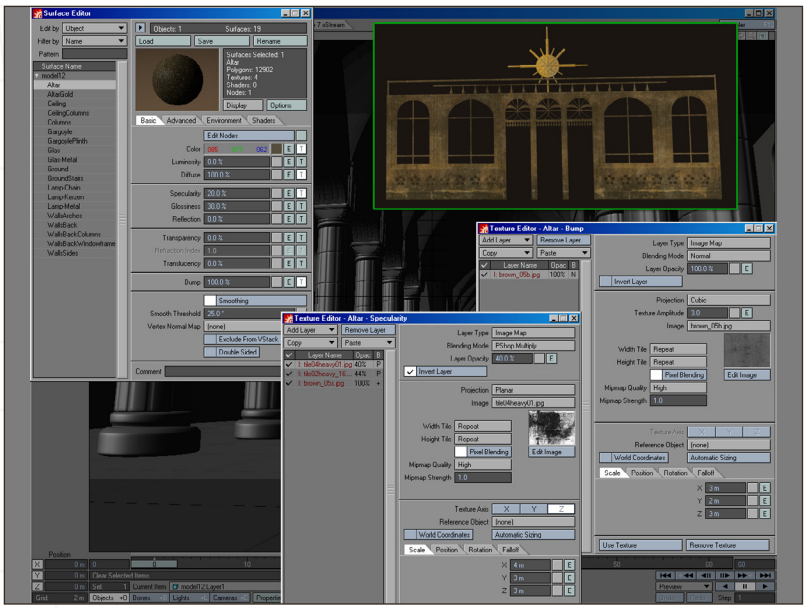


Fig.21

As you can see (**Fig.21**), it is a very straightforward process to create a material in this way. You always start with one base texture and add variety.

Tip: For the golden part of the altar, I started from the same material. It got a higher level of specularity and some colour correction, as well as some yellowish procedural textures. Reusing materials and changing them is a good way to save time and build upon something that already works.

For the ceiling we need to create a good UV map, as well as some custom textures again. In Modeller, bring the ceiling model into a separate layer. Create a "Morph Target" and make sure you are working on this now. It is also good advice to save your work before you start and whilst you're working on this map (**Fig.22 – #1**). Cut and paste a ceiling segment, and move it onto the following element so that they share the same space (**#2**). Do this for each identical segment until all of them are lying on top of one another. You'll only see two parts now – one big and one small segment (**#3**). Turn on Symmetry Mode and evenly spread the arches towards the side. Move point by point, or use the magnet tool to flatten out the segments. As there are just a few polygons for each segment, this can be done very quickly (**#4**). Select only the small segments (all still in one place) and create a planar UV Texture map, with Subpatch Interpolation mode enabled. Then select the bigger segment and do the same. In UV space, move the bigger segment along the V-axis out of the UV view (**#5**).

Make a screenshot in the top view from the flattened out small segment, as this will serve you as the base for your texture in Photoshop again. When you're done with the map, delete the morph target and the objects snaps back to the complete ceiling with all parts in place. Don't forget to merge all the points again and turn on subpatching.

In Photoshop, the screenshot from the segment will show you exactly how the mesh is laid out. Use a base layer for the ceiling, such as brown05.jpg. Desaturate and scale down the map (**Fig.23**). Note that the image is still tiling when you scale it exactly as big as the mesh screenshot (**#1**).

Use an image such as egypt03.jpg for the arches. Scale it down, copy it a few times side by side, and use Edit > Transform > Warp to bend it along the mesh lines. If you are unsure, load the texture into Modeller / Layout to check in the OpenGL Preview if it is fitting (**#2**). Mirror

Fig.22

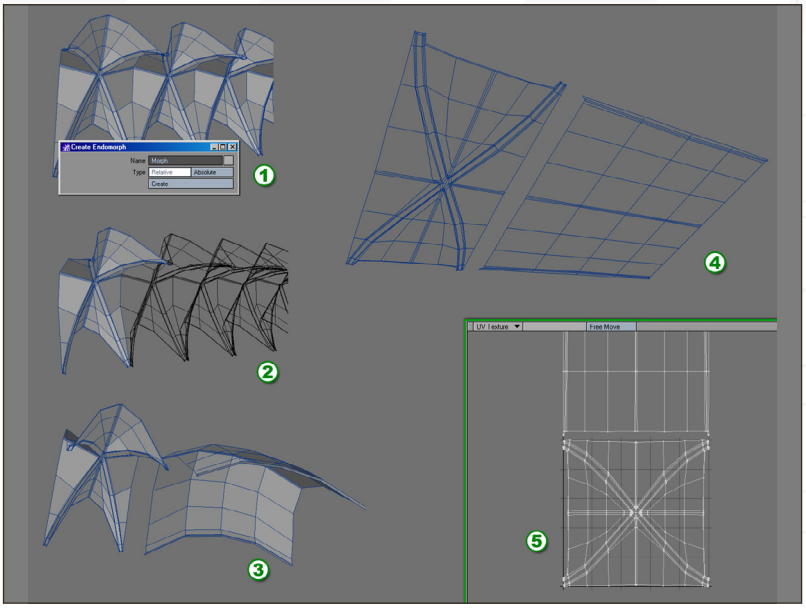


Fig.23

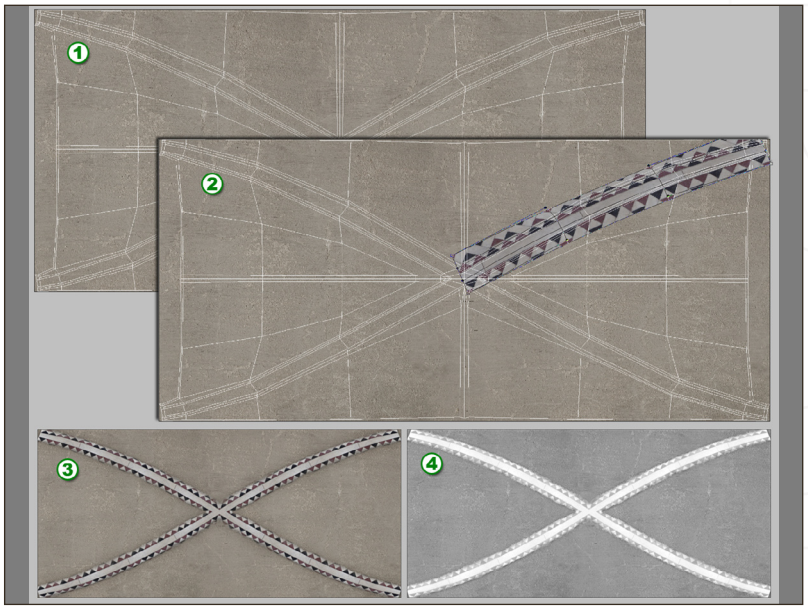


Fig.24

this element twice for the other arches. You can use the eraser tool to make the edges irregular and blend towards the background. It's also a good idea to use layer effects and add some dark outer glow and bevel effects (**#3**).

To create the bump map for the finished image, use desaturation and level adjustments (**#4**).

The material for the ceiling is quite simple; just load up the colour texture you created in the colour channel and for the UV map input, use the map from **Fig.22**. For the bump channel, just use the created bump map instead. As usual, you can spice it up a bit with the use of some dirt maps.

In the next part of the tutorial we will deal with lighting, which is very important in a scene like this. We will also cover rendering in passes. For now though, I hope you enjoyed this part of the series. If you have any questions, please feel free to contact me via my homepage. I will now leave you with the final image for this section of the tutorial (**Fig.24**).

Gothic Church Interior Creation
Part 3: Texturing

dOUGh-CGI : Roman Kessler
For more from this artist visit:
http://www.dough-cgi.de
Or contact:
info@dough-cgi.de

Introduction

These 80 plus page, Downloadable PDF's aims to show a comprehensive guide to creating a Bugatti Veyron for people new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software.

Bugatti Veyron

Car Modelling Series

Downloadable Tutorial EBook

Chapter 1: Modelling the Chassis - Basics
Chapter 2: Modelling the Chassis - Details
Chapter 3: Lights, Radiator Grill & Vents
Chapter 4: Wheels, Tyres & Rims
Chapter 5: Interior
Chapter 6: The Materials & Finishes
Chapter 7: Lighting Set up & Render

The featured artists are as follows:

3DS Max - Ali Ismail
Cinema 4D - Emlyn Davies
Lightwave - Vojislav Milanovic
Maya - Brendan McCaffrey
Softimage XSI - Krisztián Szeibold

3dtotal.com
for more products in our range visit http://www.3dtotal.com/shop

Gothic Church

Interior Creation

This series will provide an overview of the principal techniques used to create a gothic interior based upon a concept painting along with a tutorial on the process of sculpting a gargoyle character in ZBrush. Key methods covering modelling, texturing, lighting and rendering will be outlined over the course of the series and culminate in a chapter on post production and how to composite numerous render passes into a final image.

The schedule is as follows:

PART 1: This tutorial will outline some of the prominent approaches to building the church interior. We will cover some of the key methods and modifiers responsible for creating the scene and core geometry.

PART 2: Will focus on the creation of the gargoyle which will be mounted on one of the columns. This tutorial will orientate around ZBrush and its powerful sculpting tools and show how a detailed model can evolve from simple ZSpheres.

PART 3: This part will detail the texturing phase of the series and deal with mapping and unwrapping key areas of geometry alongside the gargoyle.

PART 4: Lighting and rendering will be the focus in this tutorial. Light rigs and a variety of render passes will be explained in readiness for part 5; the post production.

PART 5: This the final part of the series will show how the various render passes are composited in Photoshop to create a final render. An account of some of Photoshop's tools will show how versatile this approach can be and show the value of multiple passes for post production.

FREE RESOURCES
DOWNLOAD HERE

Gothic Church
INTERIOR CREATION
PART 3: TEXTURING

CREATED IN:

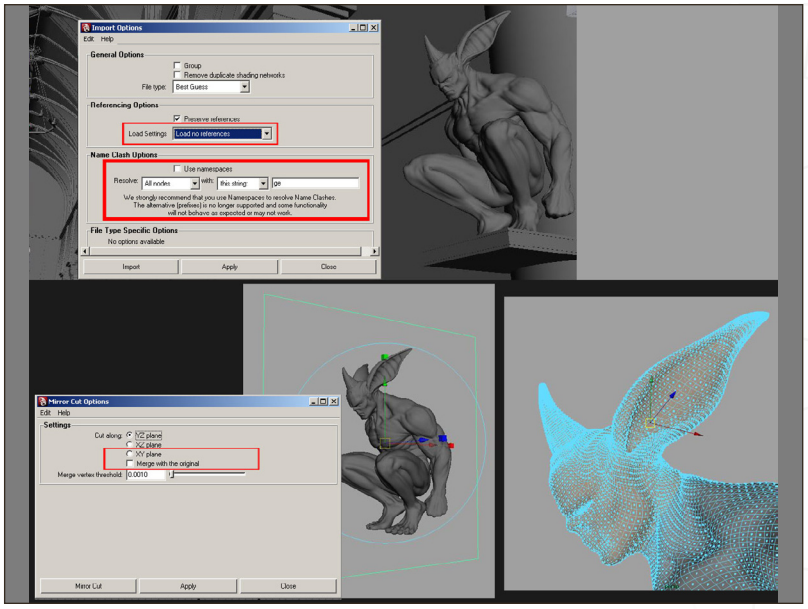
Maya

INTRODUCTION

In this part of tutorial we are going to texture our scene – not only our Gothic church interior scene, but also the gargoyle that we followed the creation of in ZBrush in the last chapter (Part 2, March 2009 Issue). We have our gargoyle exported as an .obj file, so we just have to import it into Maya and start work.

After reloading our scene in Maya, let's go to File > Import and click on the little window beside File Import; the options menu will pop-up. As you can see, in this menu there are several options; first we're going to choose "Load no references" from the import options, and use "ge" (or you can choose anything else which you think is suitable) as the string for new imported object nodes. Once we click Import, another pop-up menu will prompt us to locate our file (**Fig.01**).

Fig.01



Once the gargoyle has been imported, let's scale down the size and reposition it with the help of the camera angle which we set up before. After this we can move on and start to do the UV layout for all the objects inside our scene.

PART I – UV LAYOUT

1. GARGOYLE

First let's focus on the gargoyle. As you can see, the model is complex. Usually when we create the UV maps of a figure in a standard "T" pose, we choose Create UVs > Automatic Mapping, and tweak and sew the separated UVs together. Sometimes, if we just apply Automatic Mapping once to our model, it won't give us a good result

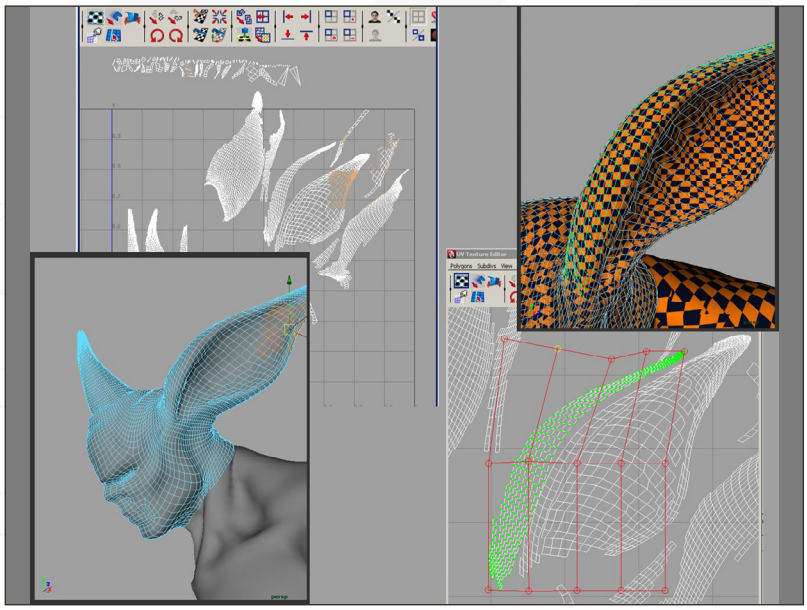


Fig.02

but it will be easy to work on those separated UVs, especially if our model is heavy in its polygon count. Let's apply "Automatic Mapping" several times to our model.

First at all, if our model is a perfect symmetrical object, we will usually delete one side of the face and work on another side. After the UV layout, just duplicate and mirror it to another side; this can save us a lot of time without repeating the job.

As we can see, although the gargoyle is symmetrical, the face does not appear perfectly in the middle. To deal with this, we can just apply Mesh > Mirror Cut to our object without modifying it. In the Mirror Cut Options, let's select the YZ plane cut option; this will cut our object perfectly in the middle (**Fig.01**). After the Mirror Cut from the top or side view, switch the object to Faces view, select all the faces from one side and just delete them. Now we can start on the UV layout.

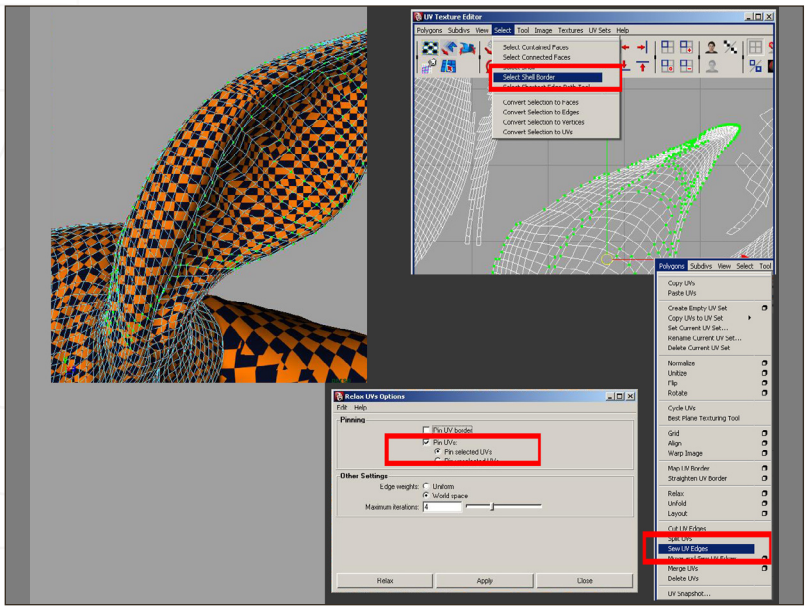


Fig.03

A. The Head

After applying a chequer colour map to the object, from the side view, let's select all the faces of the head and go to Mesh > Extract to separate it from the main body without moving its position (**Fig.02**). With the separation, this will help us to work on the UVs easier.

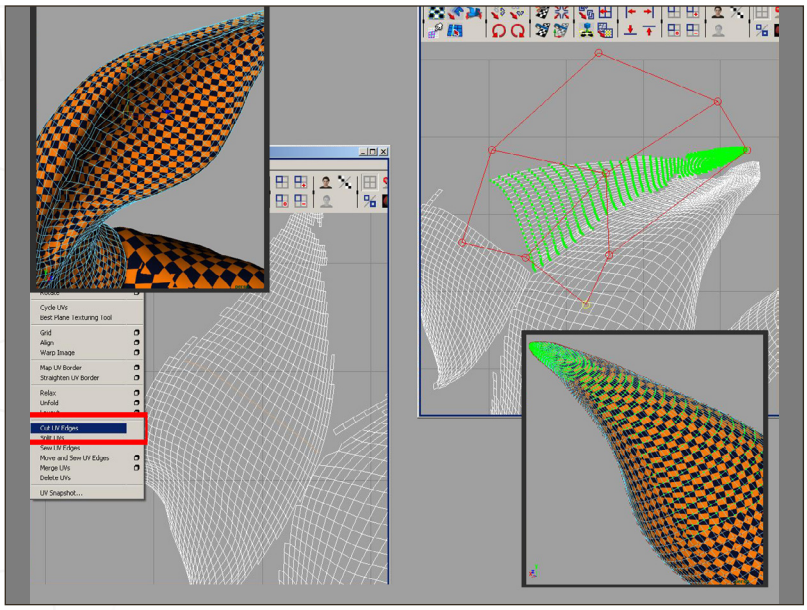


Fig.04

After the separation, we can apply Create UVs > Automatic Mapping (six planes; fewer pieces) to the head. After this, open up the Windows > UV Texture Editor, and inside the UV Texture Editor we can start to rearrange the position and rotate each piece of UVs. With the help of the Tool > UV Lattice tool, it can give us a better match for each separated UV piece, but try to keep the UVs of cut edges in a straight line, as this can help make work easier once we mirror our object to another side.

Once the separated UVs have been repositioned roughly, we can go to Polygons > Sew UV edges to sew the UV pieces one by one. In-between we can use the Polygons

> Relax tool to smooth the newly sewed UV pieces, by simply selecting the border with Select > Select Shell Border (**Fig.03**).

After all the main pieces have been sewed, we can separate some of them once again by using Polygons > Cut UV Edges for a better fit of each piece (**Fig.04**).

Once all of the separated main UV pieces have been sewed (we will leave the horn/ear/head unattached), position them nicely inside the bounding box for use later (**Fig.05**).

B. The Body

With a similar method we will now do the UV-mapping on the rest of the body parts. First of all, we separate the hands, body and the legs.

First we simply apply Z-axis Plane Mapping to the whole body, and from perspective view switch to Edge mode and select the edge ring (by double-clicking on the selected edge, or going to Select > Select Edges Loop tool) between the shoulder and the upper arm. Go back to UV Texture Editor > Polygons > Cut UV Edges; this will separate the arm's UV from the body.

Now select any UV point of the arm and go to Select > Select UV Shell. This will help us to select the whole arm's UVs. Now convert the selected UVs to polygon faces by going to Select > Convert Selection to Faces (**Fig.06**).

After the separation from the body (Mesh > Extract), we can start to do the Automatic Mapping, using the same method to sew all the separated UVs faces.

We're going to be using the same method for the rest of the body parts. Once all the UVs have been nicely laid out, we can start to duplicate the geometry and scale it to -1 in Z-axis, combine them together (Mesh > Combine), and then merge the separated vertices (Mesh > Merge) (**Fig.07**). Sew the separated UVs (UV Texture Editor > Polygons >

Fig.05

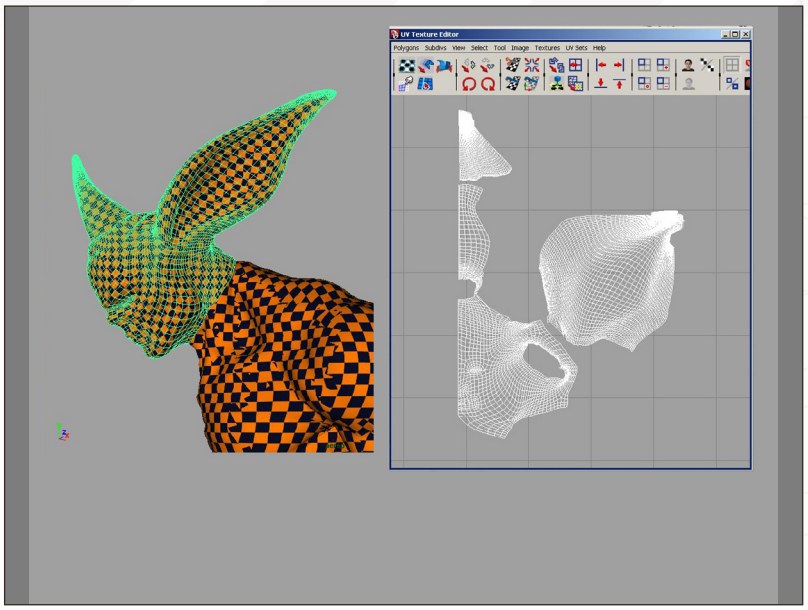


Fig.06

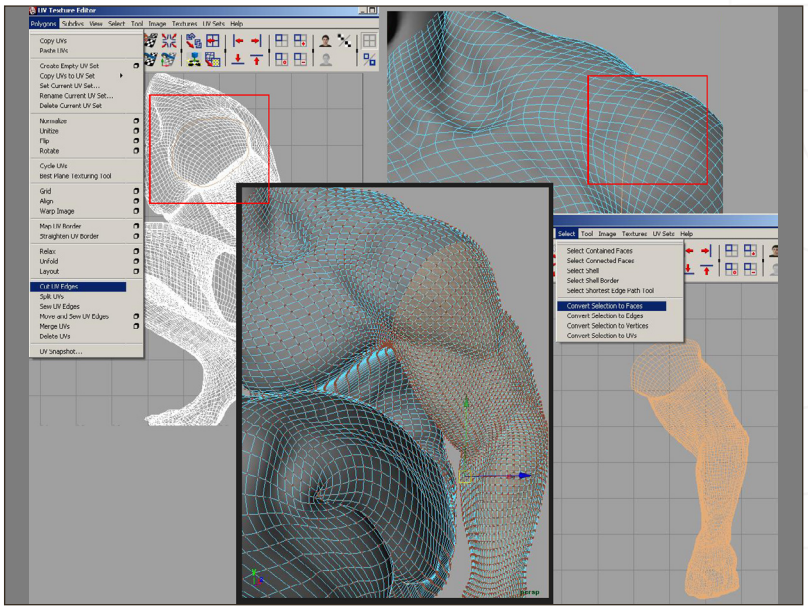
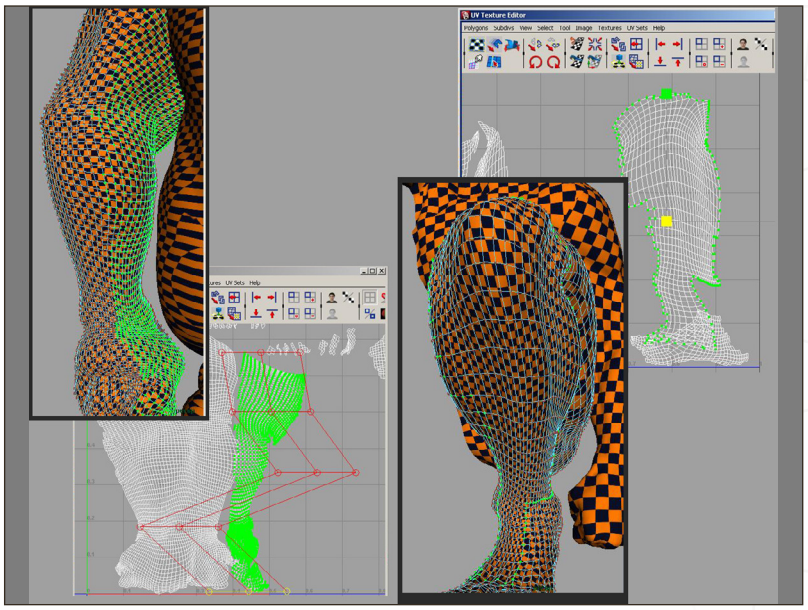


Fig.07



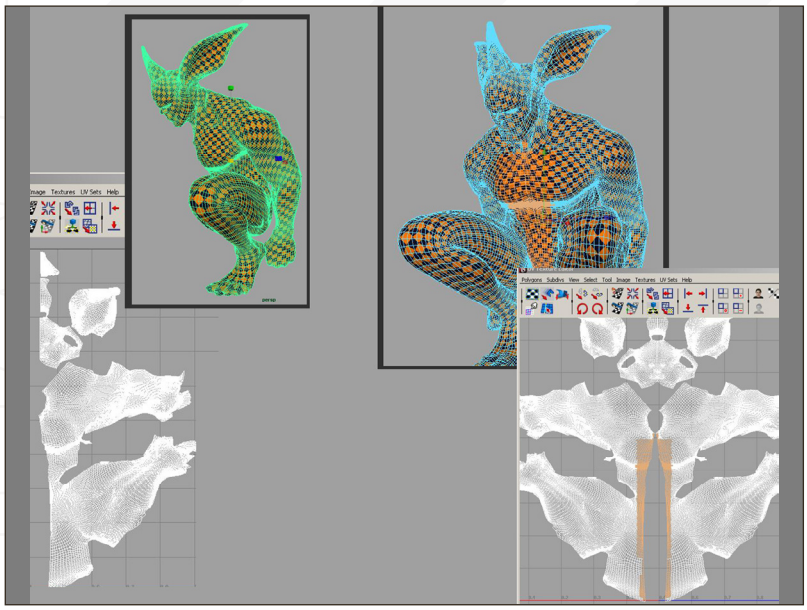


Fig.08

Move and Sew UV Edges), and place the UVs nicely inside the bounding box. We can create a UV snapshot for use later on in Photoshop. First, in UV Texture Editor > Polygons > UV Snapshot, save the UV map to a location as a Tiff file and give it a name (2048x2048) (**Fig.08 & Fig.09**).

2. The Church

So now we've come to the UV layout for the church. Everything appears to be straightforward, so we will do Cylindrical Mapping for the column and Automatic Mapping for arch, using the Move and Sew Edges tools to sew them together in the Texture Editor.

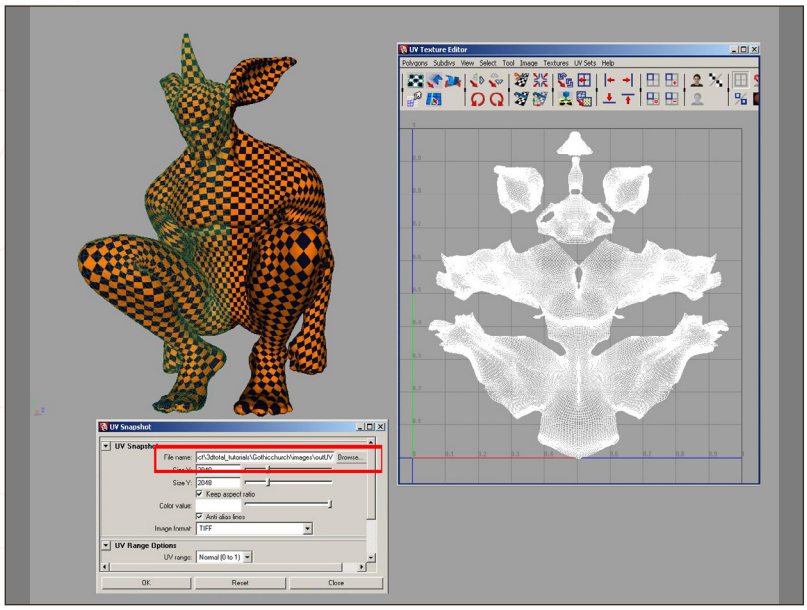


Fig.09

A. Arch

Delete one side of the arch and this time apply Plane Mapping in the X-axis, and rotate the projection plane around 35 degrees (X) inside the Attribute Editor.

Select the continuous edges on the back side of the arch, and use Polygons > Cut UV Edges to cut the connected edges.

Once the edges have been cut, use the Polygons >Unfold tool to unfold the overlapped UVs.

With the help of the UV Align tool, we can now align all the UVs back to a straight line.

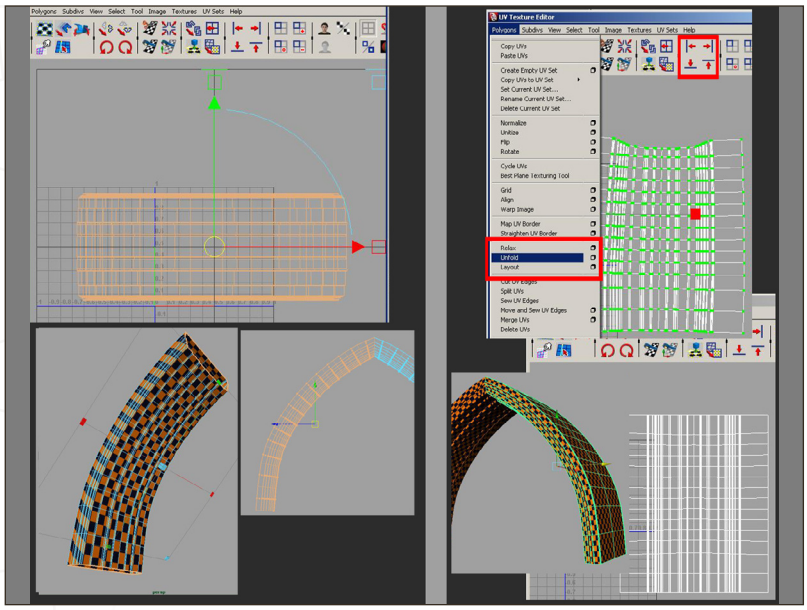


Fig.10

Duplicate the geometry and scale it in the Z-axis, and then combine them together, just like we did for our gargoyle (**Fig.10**).

B. The Vault

Let's start from the "ribs"; once again delete one side of the geometry and apply Automatic Mapping for the selected faces.

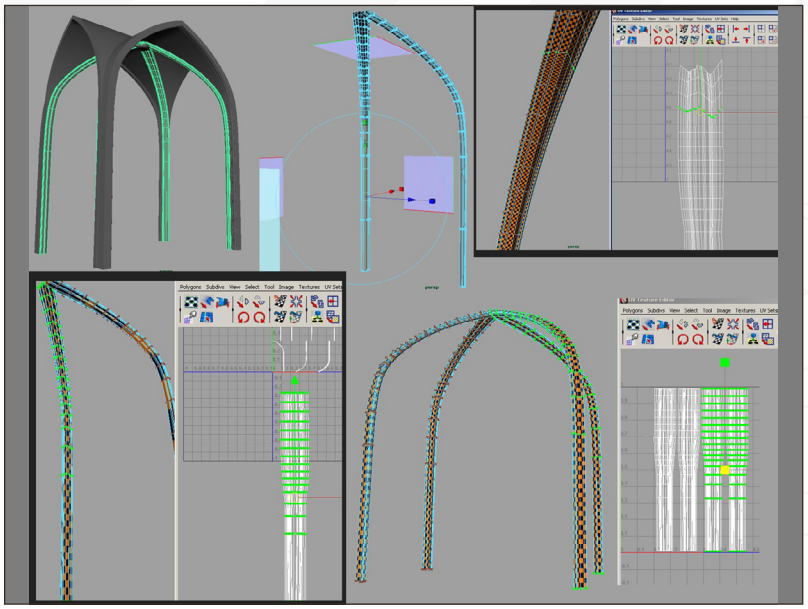
Using the same method that we did for the arch, layout the UVs of the upper part of the "ribs".

Move and sew them together inside the Texture Editor.

Duplicate the geometry and combine them with the same method that we used before (**Fig.11**).

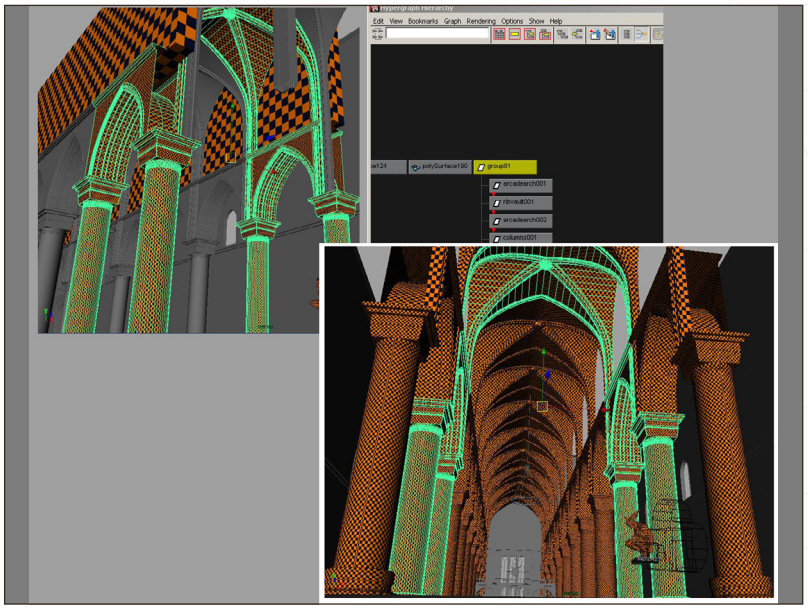
Apply Automatic Mapping for the vault and sew the separated faces together.

Fig.11



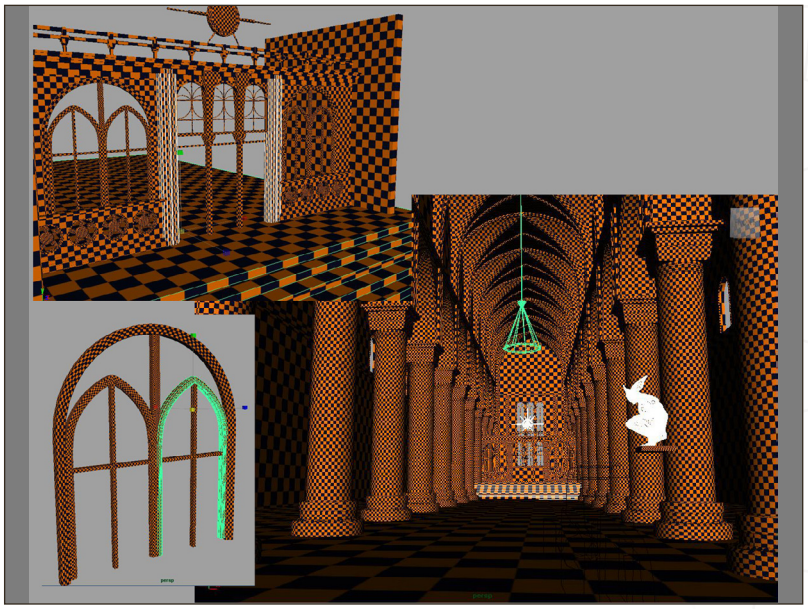
After the basic UV layout has been done, let's group the columns together, duplicate the groups and then replace those objects on another side which is without UV layout. Once again, group both groups with the vault "ribs". Now we can replace the rest of the objects (columns; vault "ribs", etc.) with this group inside our scene (**Fig.12**).

Fig.12



With the same method we used before we can now finish the rest of the objects inside our scene. Once done, export the UV snapshot as a file and then we can move on to the next part where we'll start to create our textures in Photoshop (**Fig.13**).

Fig.13



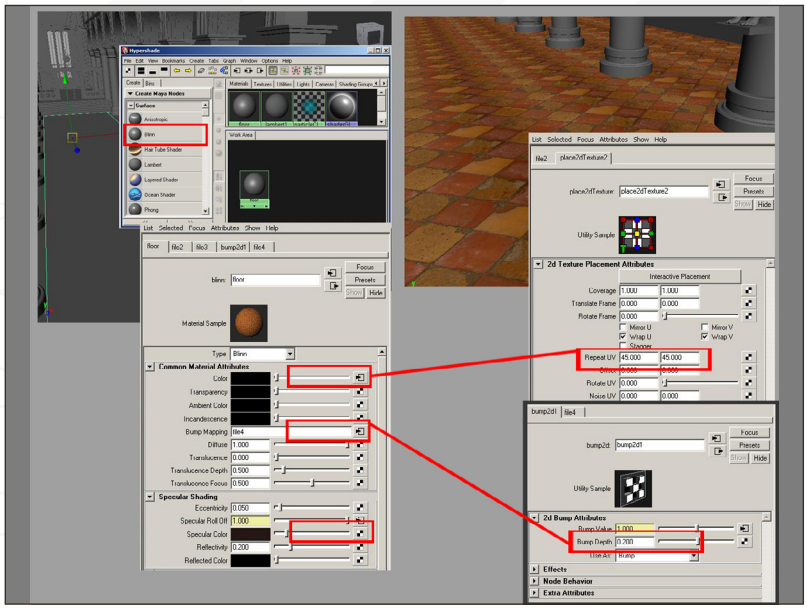


Fig.14

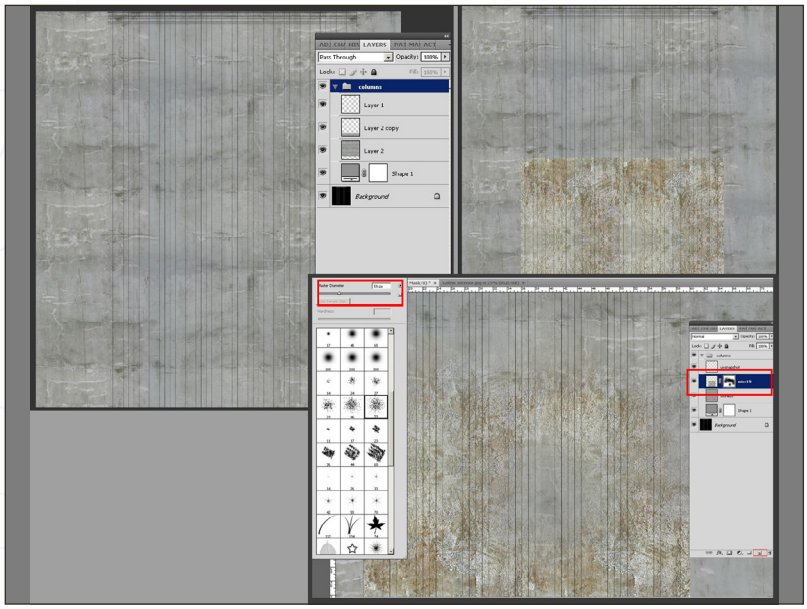


Fig.15

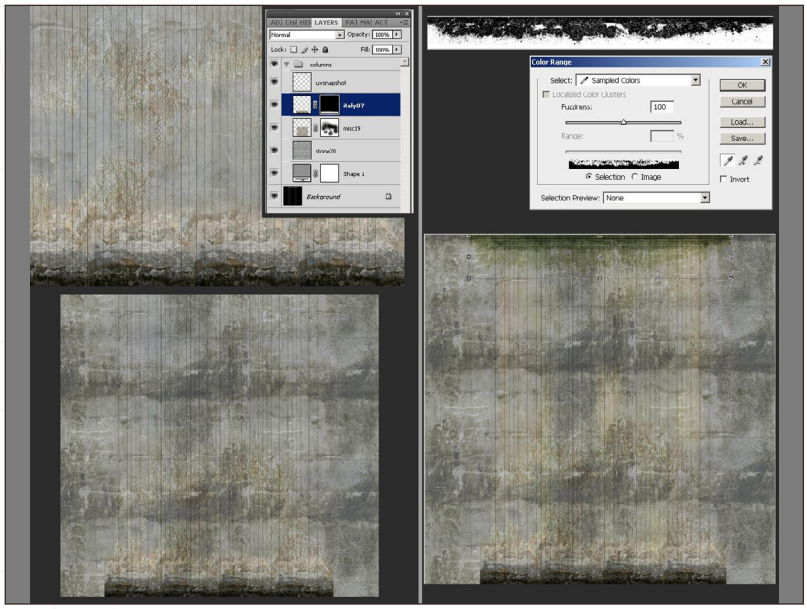


Fig.16

Part II – Creating Texture Maps in Photoshop

1. The Floor

First let's create a blinn inside the Hypershade and name it "floor" in the Attribute Editor. Once the new blinn shade has been created, click on the little chequer beside the colour section – a menu will pop-up. Select the file in the menu; from here we will load in the "misc01 / TtexV2_r2" texture map as our colour map. After the colour map has loaded, set the Repeat UV section to 45/45 in the second tab of the file menu; this will repeat our texture map 45 times. Repeat the same process: load the bump map (misc01b / Ttex V2_r2) and specular map (Misc01s / Ttex V2_r2) to the Bump and Specular Roll Off section of the floor shade, and set the bump value to roughly 0.2 (we will tweak the shade during the test rendering process) (**Fig.14**).

2. Column

Now we're going to paint the texture map for the column inside Photoshop.

In Photoshop, open the UV snapshot of the column, which was created in Maya. Because the UV snapshot was saved in .tif file format with an alpha channel, in Photoshop we can use the alpha channel to select the UV map only without the black background.

Import a new layer (Stone19 / TtexV2_r2) as the base layer of our column; scale down and duplicate the layer.

Import another layer (misc19 / TtexV2_r2) over the base layer and place it at the centre of the columns; create a mask for the layer and mask out some areas with a spatter brush for better blending into the base layer (**Fig.15**).

Load another layer (Italy07 / TtexV12_r2), scale it down and place it at the bottom of the columns to enrich the texture.

Overlay another layer (tile04heavy02 /TtexV5_r2) with the Multiply blending mode to create some dirt on the column.

Using another layer (tile02heavy15 /TtexV5_r2), invert it and select only the black colour area with the Select > Colour Range tool. Change the colour to a greenish tone by using Image > Adjustments > Hue/saturation. Blend the layer using Multiply mode, decrease the opacity, and then place it at the top of the column to create a green moss-like effect (**Fig.16**).

Let's now create some gaps in the columns by duplicating the layer which we used to create the green moss effect (tile02heavy15 / TtexV5_r2). After duplicating the layer, change the colour tone to brown, scale it down and duplicate it, and then place it in a position close to our 2D concept painting.

After the colour maps have been created, copy merge the entire layer and Desaturate and tweak the Levels to create the bump and specular maps for the column (**Fig.17a**)

When we create a bump map or specular map for an object, they work like a monochrome ramp with the darkest value representing the lowest amount of bump or specular (for example, in a blinn material). With the created specular map plugged to the "Specular Roll Off" section, and other section under specular shading in Maya, we are able to have a basic control of the attribute of the particular object (**Fig.17b**).

3. Gargoyle

With the same base layer (Stone19 / TtexV2_r2), let's now create the texture map for gargoyle:

First, with the Airbrush brush tool, paint some washed out effects on parts of the gargoyle and blend the layer with the Overlay option

Load another layer now (Stone03 / TtexV2_r2) to create the cracks on the statue. Select only

Fig.17a

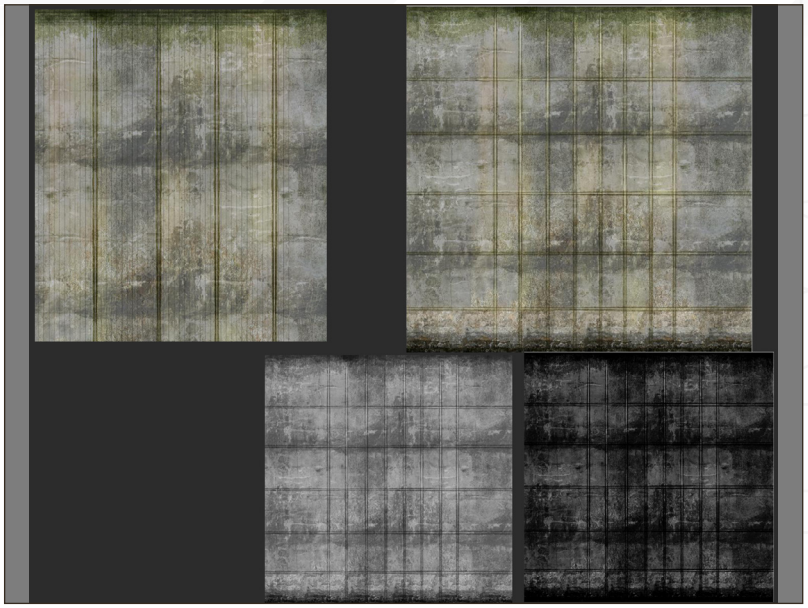


Fig.17b

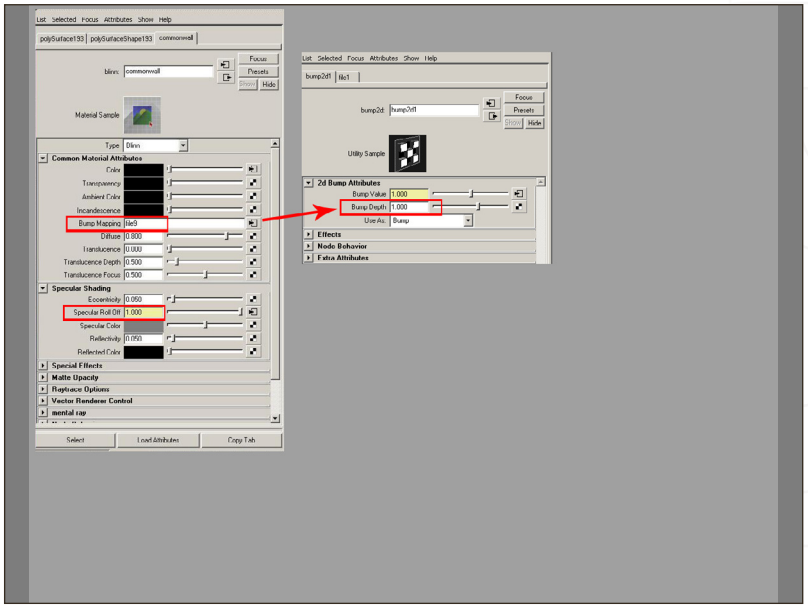
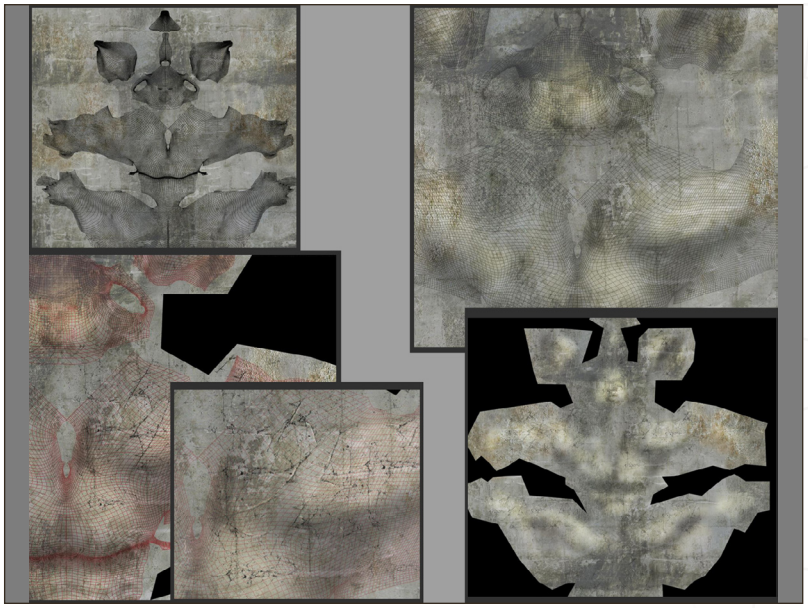


Fig.18



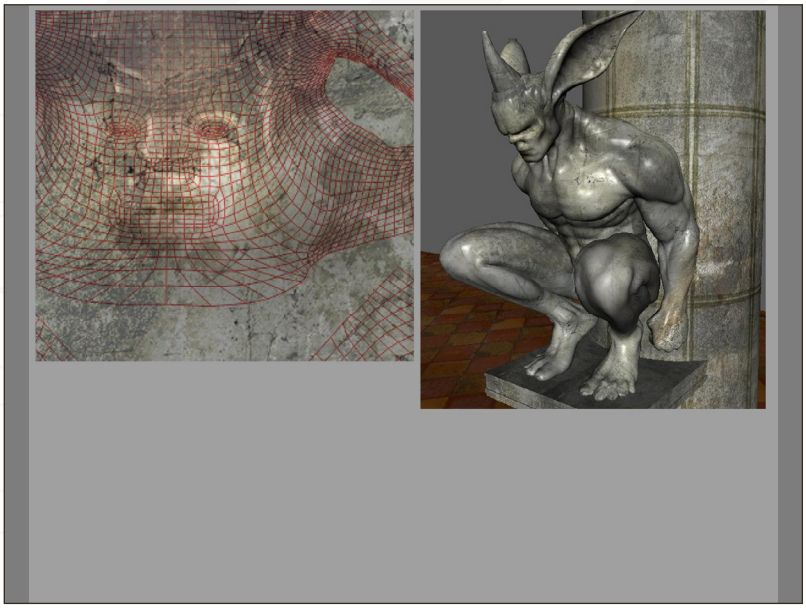


Fig.19

the dark colour with the Select > Colour Range tool. Blend it using Multiply mode and delete some of the areas, making it look more natural. Create another layer and paint some highlights on the cracks (**Fig.18**).

Paint some more detailed highlights on a new layer and blend with the Overlay mode (**Fig.19**).

With the same base layer and a similar method, we can create another texture for the side wall (add on England04 / TtexV12_r2) (**Fig.20**). For the top of the column, paint some extra pattern to enrich the texture (**Fig.21**).

4. Arch/Vault

According to the lighting condition and the camera position, it's likely that these objects will mainly be hiding in the shadow, so we are going to create a common texture map for the arch and the vault, as follows:

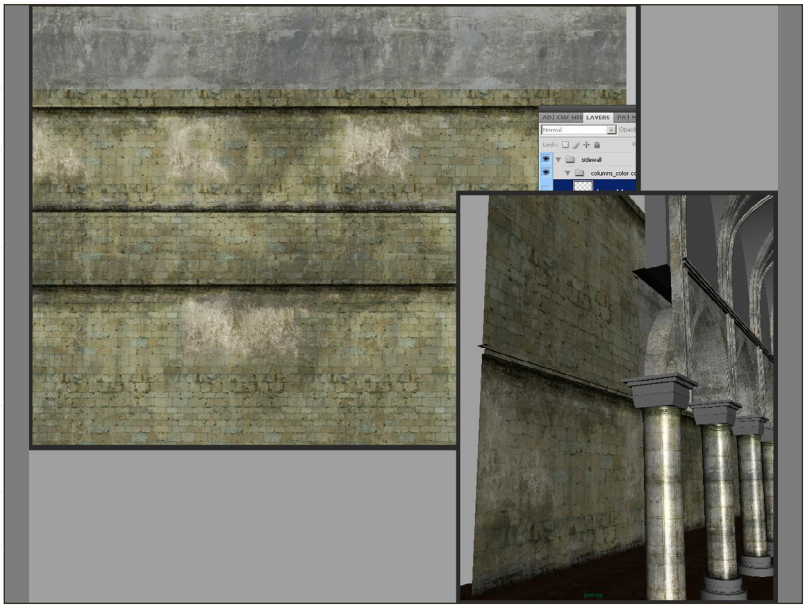


Fig.20

Duplicate the base layer we created for the columns, without any additional pattern on it.

With the help of Filter > Other > Offset, we can create a seamless texture, simply using the Clone tool to clean up the sharp edge in the middle of the texture map.

When we apply the common texture to the arches or the vault in Maya, we can modify the position of the UV map of each arch to create a varied result of the texture map.

Fig.21

Duplicate and layer with the same method we used above to create the bump and specular map (**Fig.22**).

5. Hall Light

Now we'll create a metal texture for our light. First, create a dark brown layer; duplicate the layer and then apply Filter > Noise > Add Noise.

After the noise filter, Motion Blur the noise; this will create some metal-looking lines. Blend the layer with the Multiply mode with our dark brown colour layer.

Apply another layer on it now (tile02medium_04 / TtexV5_R2) to create some dirt effect.

Paint some highlights on the new layer and blend it with Overlay mode.

Copy merge all the layers to a new layer. Apply an Offset filter to it; this can help us to create a seamless texture. Clean up some problem areas in the centre with the Clone tool (**Fig.23**).

6. Altar

Now we'll create the texture for the Altar. Start by creating a base layer by using TtexV3_r2 / Brown0, and scale it to an appropriate size to fit the size of the altar. Sometimes we have to consider some factors of the final output to get an appropriately sized texture; for example, the texture appears slightly out of proportion when we create it in 2D, but back in the 3D scene, because of the distance from our camera and/or the lighting condition, it looks reasonable. When the texture appears appropriate, it can enrich our result for the render – otherwise our object will look strange. At the same time, the amount of the detail we create is relative to the similar factors mentioned above.

Now let's add some dirt to the base layer (TTexV5_R2 / tile02heavy12; TTexV5_R2/ tile02heavy_05). Scale and position them, and blend them with the "Soft Light" mode with a different amount of Opacity.

Next use the pattern we painted for the column: duplicate/scale and position them to enrich the texture. Add some more pattern and dirt to the texture map (**Fig.24**). Apply the same material we used for the hall light to the decor on the altar (**Fig.25**).

7. Altar Window Glass

Now we're going to create a pattern on the altar window glass. We will create this pattern based on a texture map (egypt03 / TtexV12_r2); first increase the contrast and then cut out the pattern that nicely creates a new one.

Fig.22

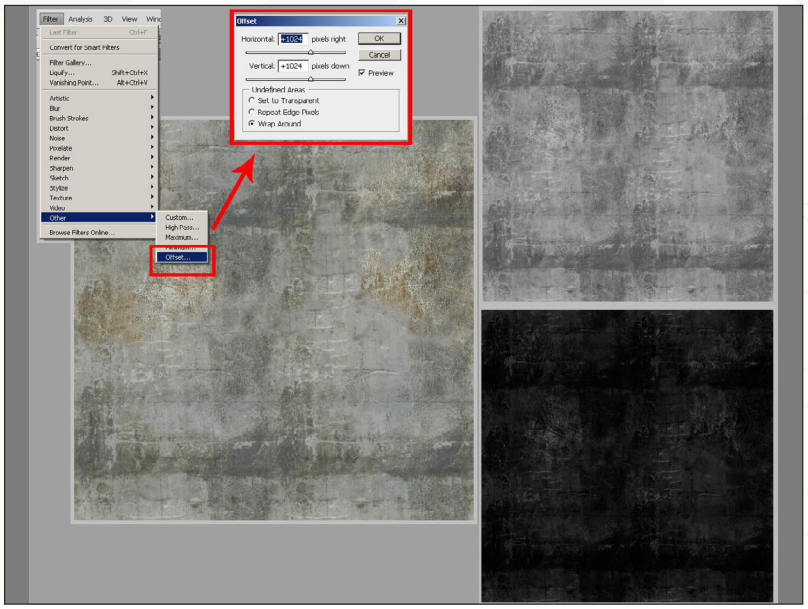


Fig.23

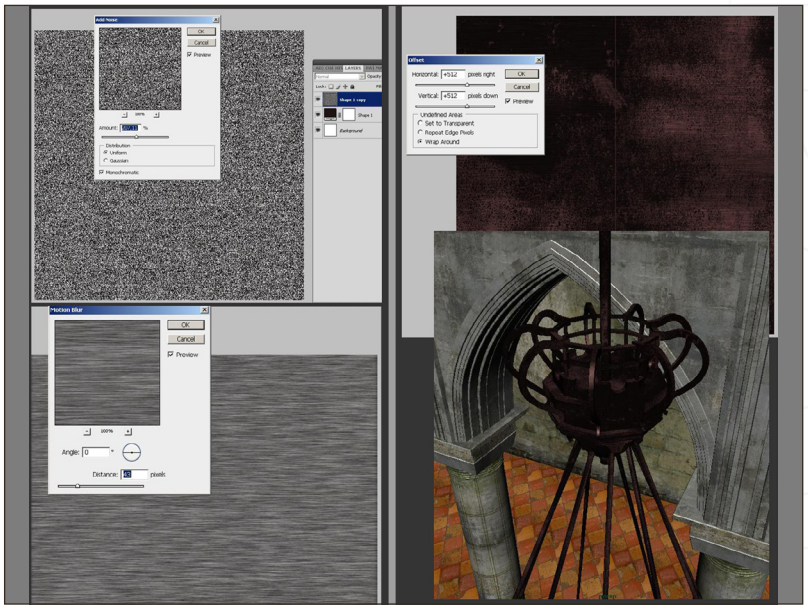


Fig.24

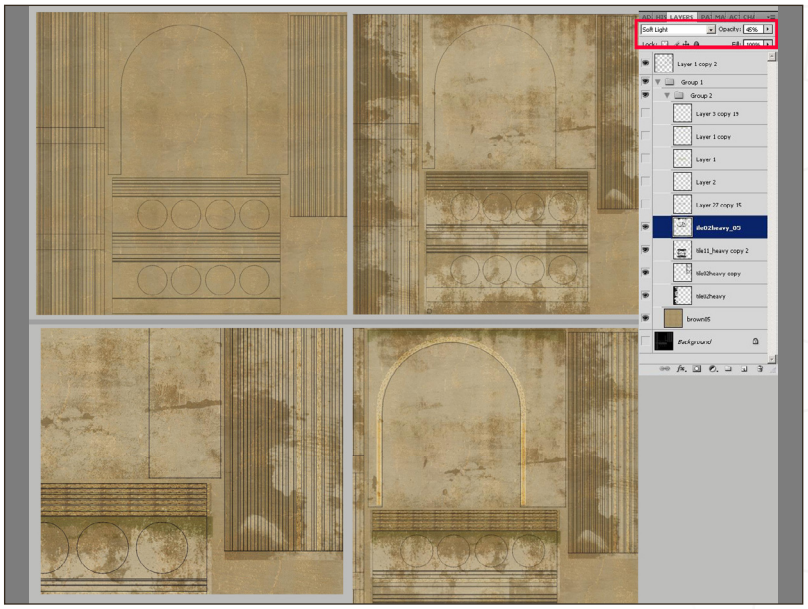


Fig.25

Duplicate the layer until you're able to cover the window glass; merge down all the duplicated layers and make it symmetrical. Duplicate the merged layer and apply Crosshatch to it. Blend it to the first layer with Dark Colour mode.

Duplicate the first layer and apply the Stained Glass filter. Adjust the size of the cell and blend it to the second layer using Overlay mode.

After the basic pattern has been created, let's apply another layer (tile02heavy19 / TTexV5_R2) and blend it with Multiply mode to create some dirt effects on the glass.

Finally, let's apply one more layer (tile02medium_08 / TTexV5_R2) and blend it with Overlay mode to enrich the colour tone on the glass (**Fig.26**).

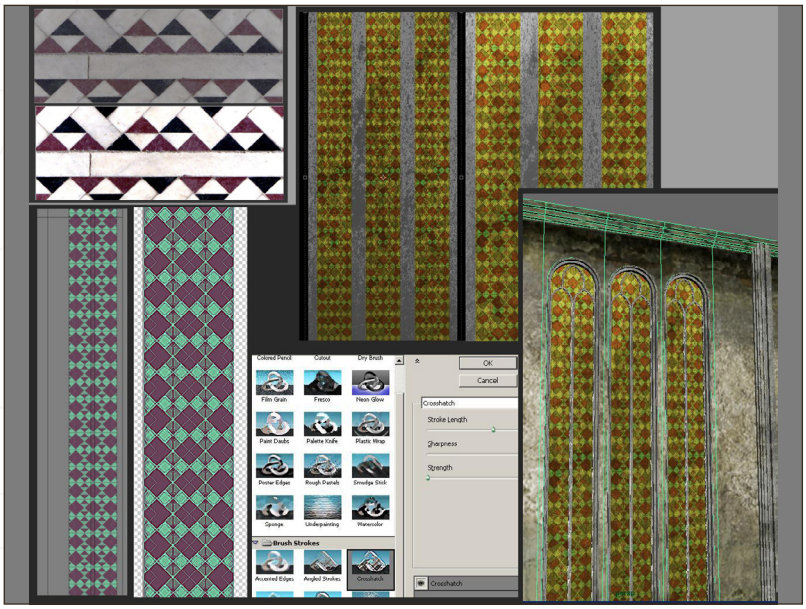


Fig.26

Copy merge all layers, desaturate the new copied layer and then tweak the Levels to create the transparent map for the glass.

We will texture the structure above the altar windows using the 2D Photoshop concept we've been following.

After all the texture maps have been created, apply them to our objects. Use the default Maya blinn shader (**Fig.27**).

Fig.27

We will fine-tune some settings next time, during our rendering tutorial. I hope you have enjoyed this part of the tutorial. Many thanks!

Gothic Church Interior Creation

Part 3: Texturing

Tiong-seah Yap

For more from this artist visit:

http://www.schokoladenmann2plus3.blogspot.com/

Or contact:

tiongseah.yap@hotmail.com

3D environment lighting

Downloadable Tutorial EBook

Introduction

3D Environment Lighting is a downloadable tutorial ebook series, where over the course of the six chapters we will be detailing techniques on lighting an environment under a number of different conditions. Each chapter will cover a step-by-step guide to setting up lights, aimed at portraying the scene in a specific manner.

Chapter 01: Sunny Afternoon
Chapter 02: Twilight
Chapter 03: Moonlight
Chapter 04: Electrical
Chapter 05: Candlelight
Chapter 06: Underwater

Environment Lighting
Designed & Modelled by Richard Tilbury

Created for the following programs
3DS Max by Luciano Iurino,
Cinema 4D by Giuseppe Guglielmucci & Niki Bartucci,
Lightwave by Roman 'dOUGh-CGI' Kessler
Maya by Florian Wild,
Softimage XSI by Luciano Iurino

3dtotal.com
for more products in our range visit http://www.3dtotal.com/shop

modo

Gothic Church

Interior Creation

This series will provide an overview of the principal techniques used to create a gothic interior based upon a concept painting, along with a tutorial on the process of sculpting a gargoyle character in ZBrush. Key methods covering modelling, texturing, lighting and rendering will be outlined over the course of the series and culminate in a chapter on post production and how to composite numerous render passes into a final image.

The schedule is as follows:

PART 1: This tutorial will outline some of the prominent approaches to building the church interior. We will cover some of the key methods and modifiers responsible for creating the scene and core geometry.

PART 2: Will focus on the creation of the gargoyle which will be mounted on one of the columns. This tutorial will orientate around ZBrush and its powerful sculpting tools and show how a detailed model can evolve from simple ZSpheres.

PART 3: This part will detail the texturing phase of the series and deal with mapping and unwrapping key areas of geometry alongside the gargoyle.

PART 4: Lighting and rendering will be the focus in this tutorial. Light rigs and a variety of render passes will be explained in readiness for Part 5; the post production.

PART 5: This, the final part of the series, will show how the various render passes are composited in Photoshop to create a final render. An account of some of Photoshop's tools will show how versatile this approach can be and show the value of multiple passes for post production.

FREE RESOURCES
DOWNLOAD HERE

Gothic Church
Interior Creation
Part 3: Texturing

Created In:

Modo

Introduction

In this chapter we will cover the UV-mapping and texturing techniques I used to texture the church scene. Textures will be made up entirely of a few selected 3DTotal textures. Since I used pretty much the same method for every piece in the scene, I will only go over it once (maybe twice), and if I do not mention that a new specific method was used for a certain piece, you can go ahead and assume I did it the same way as everything else.

Gargoyle

Let's start off with something interesting: mapping and baking a normal map for the gargoyle. First of all, open the lowest and highest subdivisions of the gargoyle. For simplicity, use the lowest level as the "low-poly" - all in the name of laziness. We'll need to UV map the low-poly mesh before we can do any baking. When I do my UV mapping I usually change my viewport setup to UV mode (Layout > Layouts > UV Edit). Let's unwrap the gargoyle using the Unwrap Tool. Select the edges where you want to cut up your mesh and hit Unwrap (**Fig.01**).

Something I would recommend to make sure your UVs are not stretching, is to apply a chequer texture to the model you are unwrapping. As long as the chequer is showing all quads, you are good to go!

You will probably notice that the UV shells look pretty messed up at this stage; we need to relax them so that polygons don't overlap, and to make sure they have assigned UV-space that

Fig.01

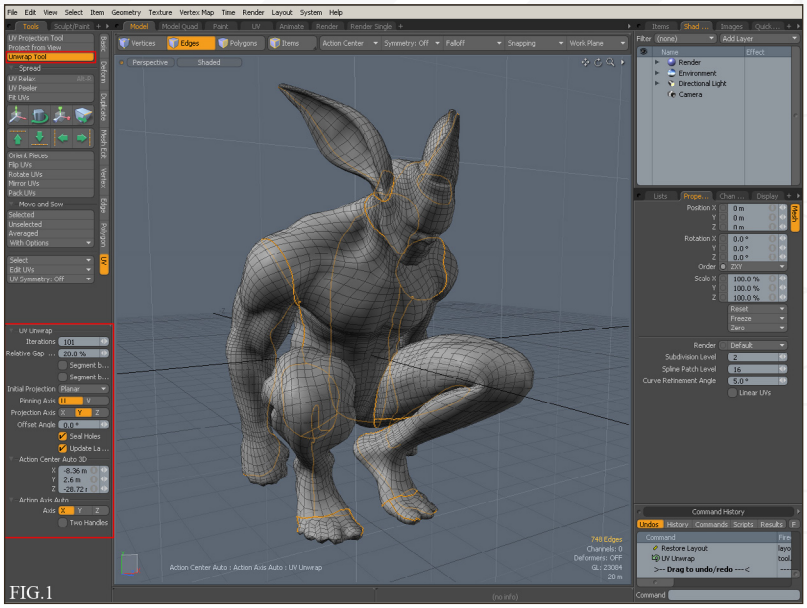


FIG.1

Fig.02

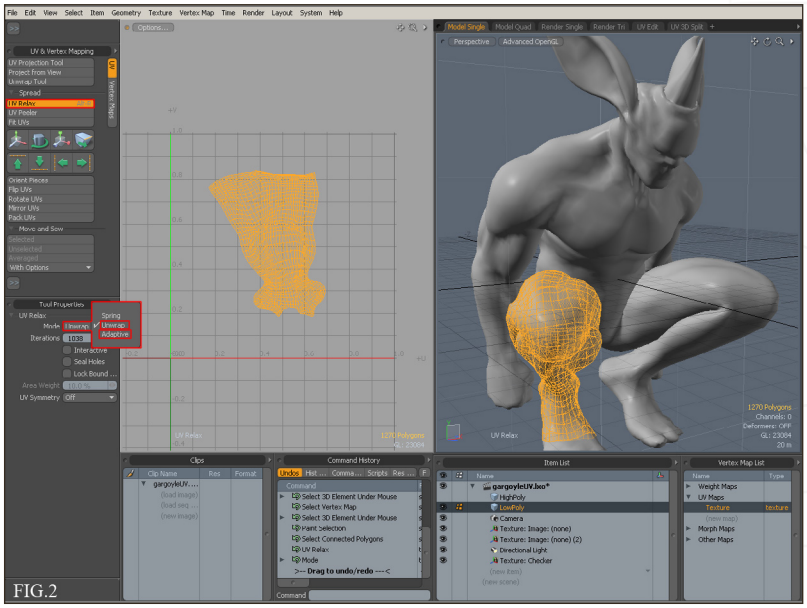


FIG.2

Fig.03

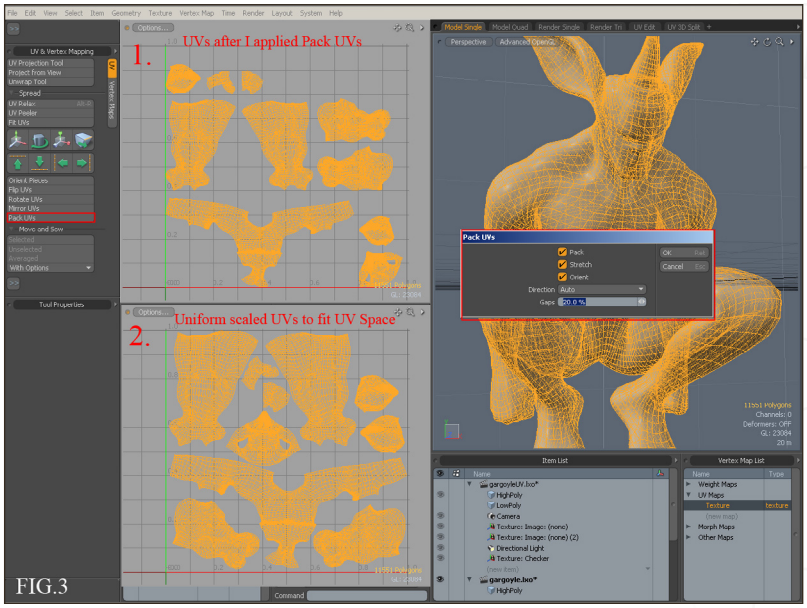


FIG.3

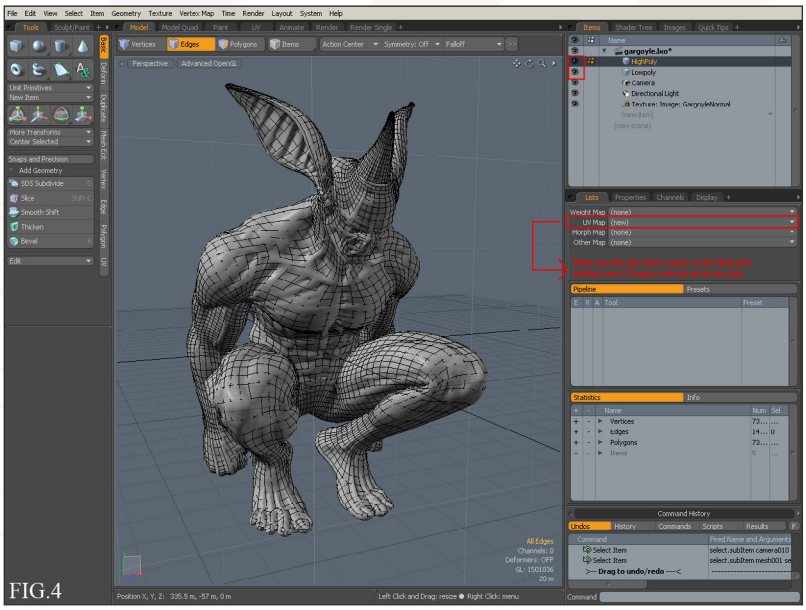


Fig.04

is proportionate to how the mesh actually looks. You will most likely have to switch between the Adaptive and Unwrap Mode of the Relax tool to get the best results (**Fig.02**).

After we have all the UV shells nice and tight, press the Pack UV button. This makes sure all the pieces have the same Texel density, relative to each other. They will not fill out the entire UV space after this, so simply uniform scale them afterwards and optimise the UV space usage (**Fig.03**).

Place the low- and high-poly meshes in two separate layers, and make them overlap perfectly. Make sure that the high-poly does not have any UV maps, and that the low-poly is mapped the way you want it (**Fig.04**).

Fig.05

Next, go into the Shader Tree and create a material for the low-poly (M) – let's call it "Gargoyle". Select the material and press Add Layer > Image Map > New Image; make it 2048 x 2048 pixels to start with. After you have added the new empty image, change its Effect to Normal. Check that both layers are visible by making sure that the little eye icon is lit in the Items menu (**Fig.05**).

Now, right-click on the image in the Shader Tree of the Gargoyle material (Texture > Open Material Editor…) and select "Bake from Object to Texture".

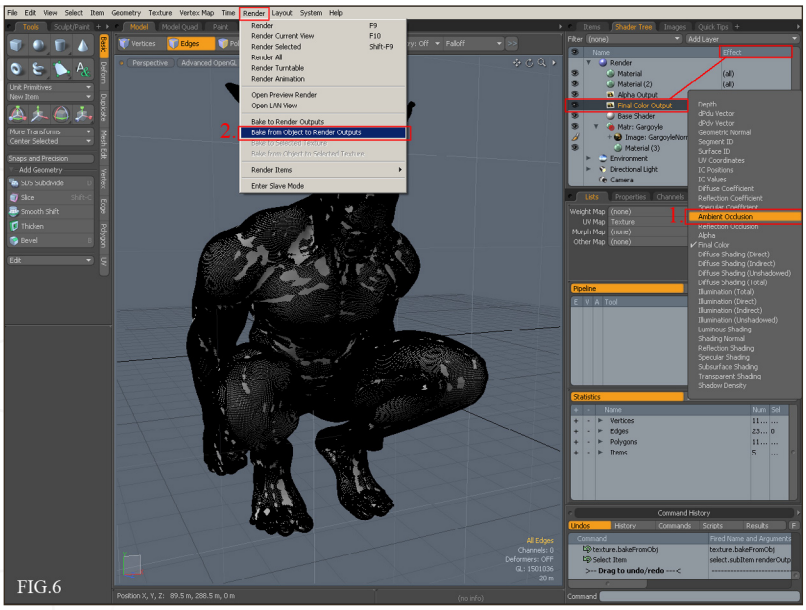


Fig.06

To bake an Ambient Occlusion map, you do pretty much the same, except that instead of choosing "Bake from Object to Texture" you change the Effect of the Final Colour Output to Ambient Occlusion, and go to Render > Bake Object from Render Outputs (**Fig.06**). You also have to set the resolution under the Render tab in the Shader Tree to 2048*2048 pixels (**Fig.07**).

Baking an Ambient Occlusion map is something I always do if an object has a proper UV map, as it makes it so much easier to see where all the details are when texturing. Once we have the Ambient Occlusion map baked and ready, we

can take it into Photoshop and start texturing. So, let's open up the baked texture and get cracking!

Start by changing the blending mode of the Ambient Occlusion layer to multiply (**Fig.08**).

Next, we have to choose the base texture for the gargoyle - I went with quite a bright, marble-like material. Start with a stone texture that you think is appropriate and then adjust the levels and brightness of it to give it a white tone. Then overlay a black and white image with cracks and dents to give it some nice details. Then, for the final pass, add some dirt to the texture, with focus on areas where you think dirt would naturally gather (**Fig.09**).

To load the texture that we just created onto the model, follow the same process that we used to create the empty image to bake the normal map, but instead of choosing "new image", choose "load image", and select the texture.

COLUMNS

Moving on to the columns, select the main section of the pillar and use a cylindrical projection to unwrap it (**Fig.10**). Unwrap the base and the top piece using the same technique that you used for the gargoyle (**Fig.11**).

For the texture, start off with a base again; this time choose a brick texture and paint out most of the mortar seams. Leave some of them there, though – they will do a good job of simulating some cracks once we make our bump map.

After the base is done, overlay a black and white texture with some random cracks in it, to further add to the weathered look. You often have to adjust the levels on the Overlay layer to get it to blend perfectly with the background.

Then it is time for the dirt pass again. When making these kinds of worn/old textures, you simply have to use common sense. Think:

Fig.07

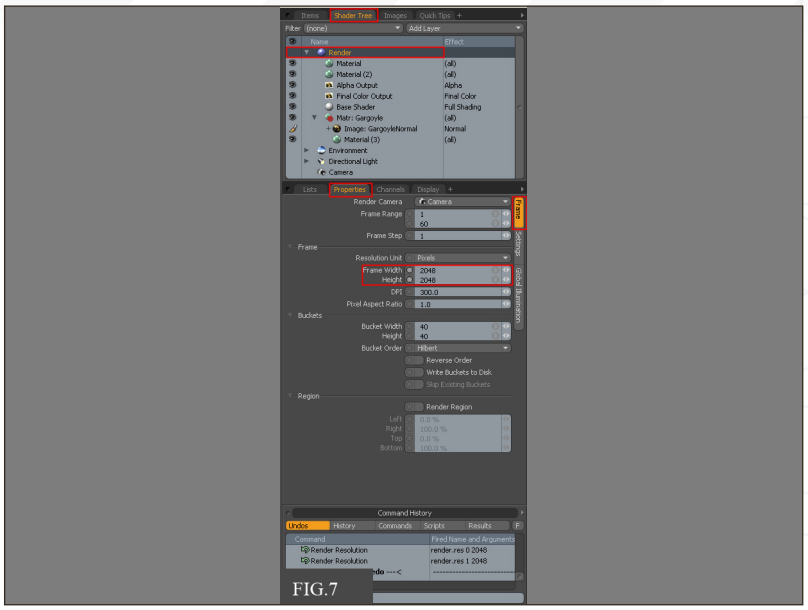


Fig.08

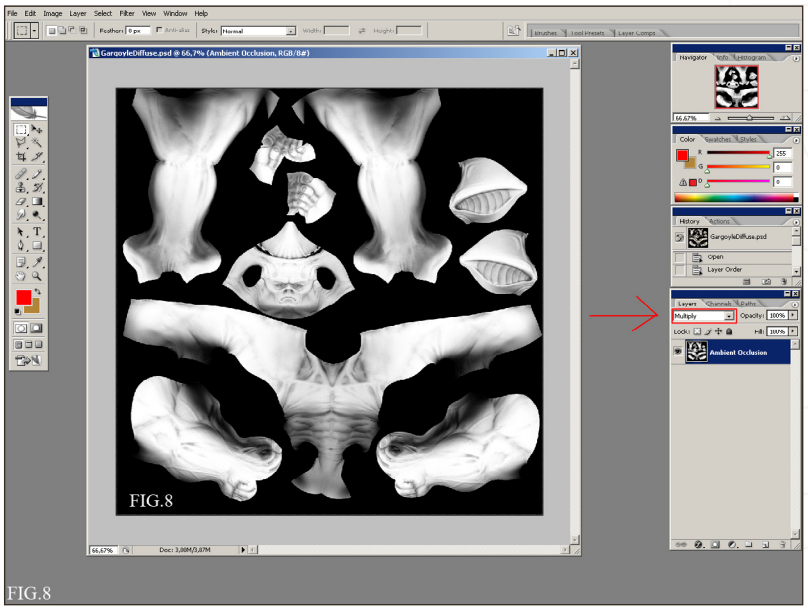
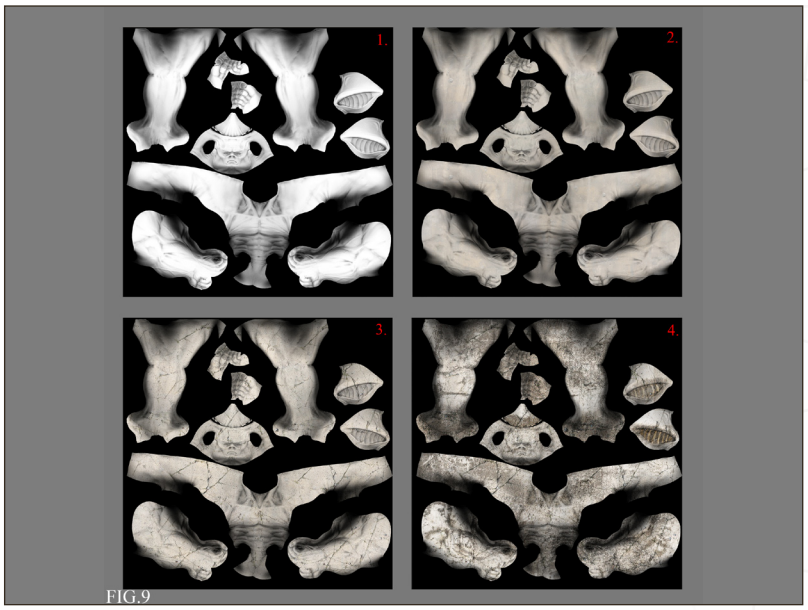


Fig.09



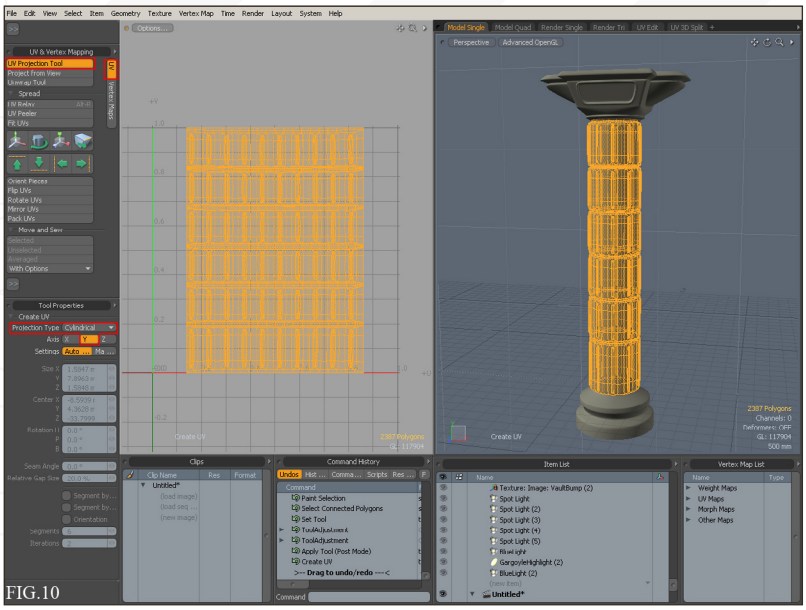


FIG.10

Fig.10

Where would the dirt gather? What areas see the most amount of wear and tear? If you keep those two questions in your head while texturing, you should end up with a pretty good, believable result (**Fig.12**).

Since we will use the same texture for all of the pillars, there is a pretty good chance that it will look a bit repetitive. To remedy this we will multiply an additional dirt texture on top of some of the pillars, as well as rotating some, so different parts of them are facing the camera.

The dirt texture is a black and white image; the black areas are the ones that will be seen, while the white areas will allow the normal texture underneath to shine through (**Fig.13**). To apply this texture to the model, we first need to create another UV set/channel. Create a new UV set (see **Fig.14**), and then right-click on the set with our column UV map on; select copy, and then paste this into the new channel. After we have a second UV set, simply load the dirt texture into the column and set the blending mode to Multiply (**Fig.15**).

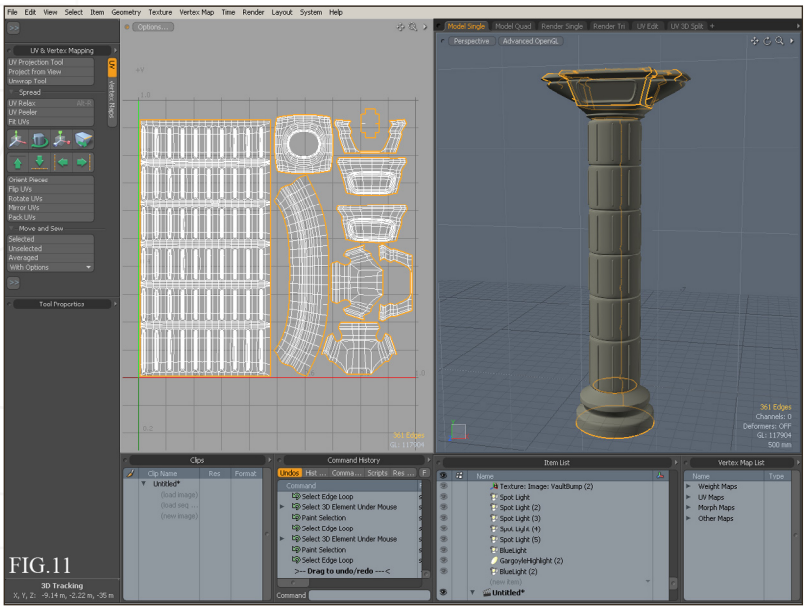


FIG.11

Fig.11

Remember that you have to set the UV set that the texture will use; this is done in the Texture Locator tab of the texture. Once you have the image applied, you can play around with the UV map on some of the pillars to break it up even more.

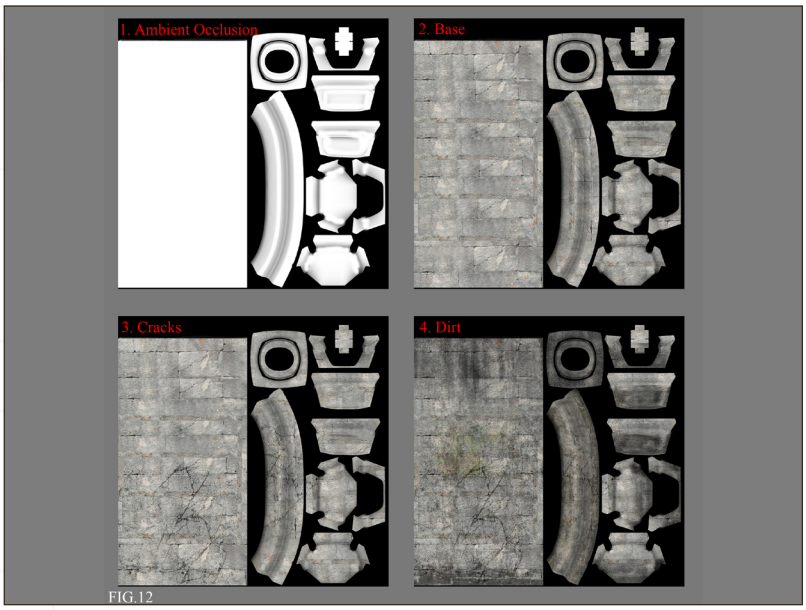


FIG.12

Fig.12

Don't worry too much if it still looks quite bland and uninteresting, we will (hopefully) take care of that in the next chapter, when we will light the scene.

FLOOR & WALL

For the floor and wall, let's use a slightly different method; since they are basically ordinary planes don't bother with a complete UV map for them. Instead project a tiling texture onto them with a planar projection (**Fig.16**).

You can use the same dirt texture that we used for the pillars on this as well; right-click

on the map in the Column material and select Duplicate, then drag it into the wall material – don't forget to change the projection type from UV Map to Planar projection, X-axis. Fiddle around with the numbers in the Texture Locator until you have a result that satisfies you. The Texture Locator allows you to change the scale, position and rotation of the projection (**Fig.17**).

Something that might be good to mention is that while working with objects that use a proper UV map, it is recommended to use texture sizes that are a multiple of two, 64 x 64, 515 x 515, 2048 x 2048, and so on. However, when using projections, like we are doing for the floor and wall, the textures can really be any size, as long as they tile nicely. Which brings me to my next point: making nice tileable textures.

This is actually quite simple: just use the Offset filter in Photoshop to offset the image both horizontally and vertically. Then use whatever means necessary to paint over the seam that appears, making sure that it blends nicely. I would also recommend removing any extreme highlights/and or shadows, so that you have a generic texture. The highlights and shadows will come from the lighting in the scene instead.

ALTAR

Last (and least actually), we have the altar. Now the altar is located so far back in the church that it will be out of focus due to the depth of field, and you will only be able to pick up on its general colour and not any texture it may have. So, instead of making a texture for this, let's make a simple material for it in the next chapter.

STAINED GLASS

Pretty much every surface in this scene is made of some kind of stone, with the only exception being the stained glass window at the back of the church. We really don't need to put much effort into this as it will be all blurred out by bloom and depth of field anyway. So let's map all the window pieces to a single map using the UV Projection Tool and bake out an AO map (**Fig.18**).

Fig.13

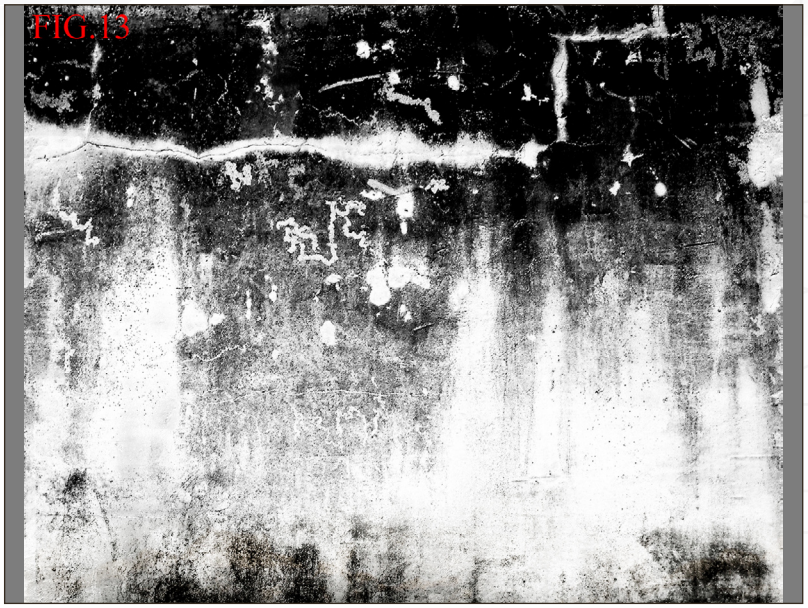


Fig.14

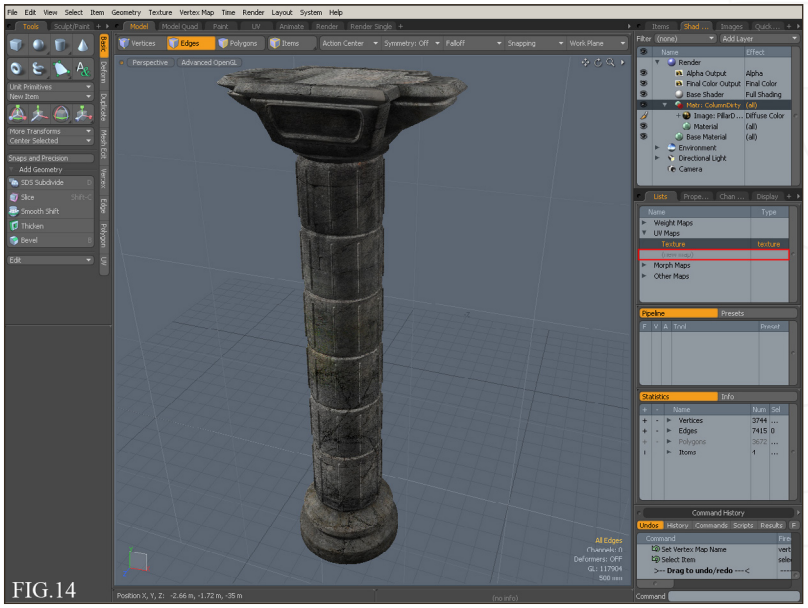
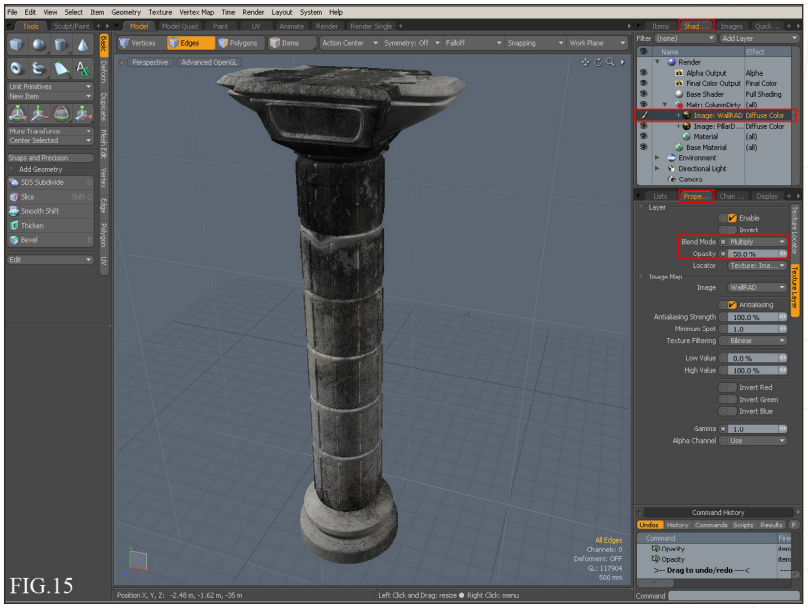


Fig.15



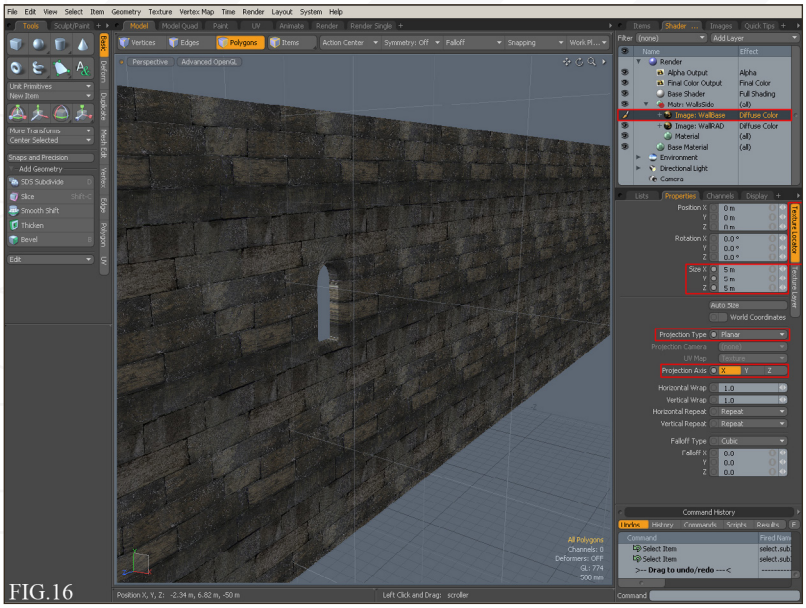


FIG.16

Fig.16

Then look up some references online to see what kinds of colours are common in these types of windows. With some references at hand, just paint splashes of colour all over the windows; since it will be blurred out anyway, painting an actual motif is just a waste of time – what we are after is the colour shifts (you can call me lazy if you want to, but I much prefer the word "efficient"!).

WHAT ABOUT THE OTHER MAPS?

Perhaps it's now time to cover how you would go about creating specular and bump maps for this scene. They are basically created in the same way; first start by desaturating the colour map (Ctrl-Shift-U), then playing around with the Levels (Ctrl-L) until you have something that you are happy with. Make sure that the recessed areas (cracks and what have you) are dark/black, and areas that are elevated are brighter toned (**Fig.19**).

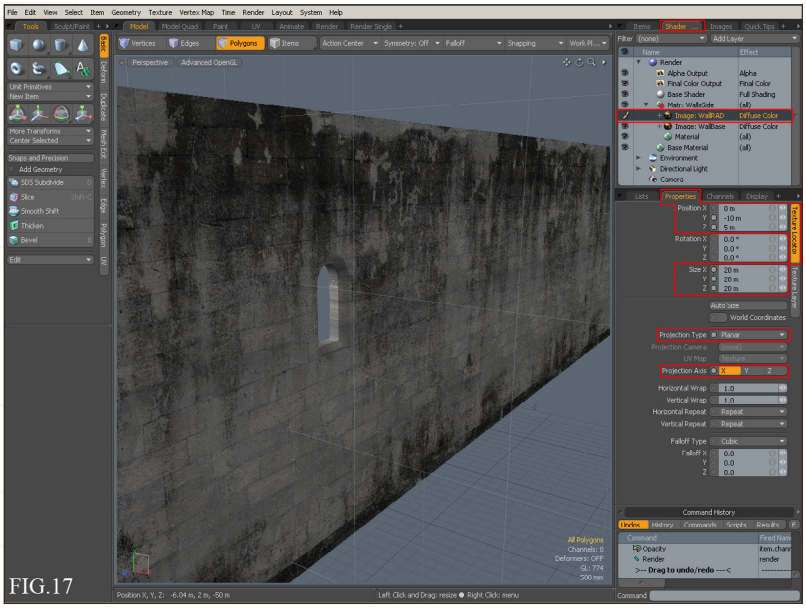


FIG.17

Fig.17

When making the specular, think about the properties the material would have in the real world. A shiny metal surface would, for example, have a very bright specular map, while an old stone pillar, like in this scene, would have almost no specular whatsoever. When you have the maps ready, just load them into modo like the previous maps, and plug them into the "Specular Colour" and "Bump" channels.

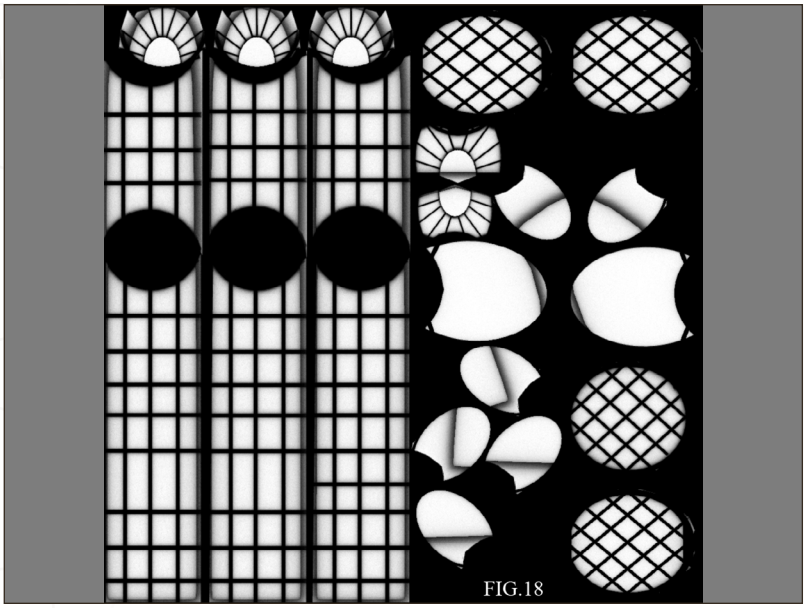


FIG.18

Fig.18

Something worth noting is that this is a very quick and dirty way of making these maps. Depending on what you will use them for, it might be worth actually doing some manual painting on both the specular and bump maps, to highlight edges and what not. But for this scene, it's not really necessary.

I believe that this chapter should cover everything you need to know to texture your scene and apply the textures in modo. In the next chapter we will look into setting up material properties, lighting, and finally rendering the scene. Oh, and I have a confession to make: I

cheated a little and have already started working on the lighting, so here is a sneak preview of what is to come – but keep in mind that it is not the final lighting, and things may change drastically before the next chapter is released (**Fig.20**)!

GOTHIC CHURCH
INTERIOR CREATION
PART 3: TEXTURING

ROBERT BERGH

For more from this artist visit:

http://www.pixelgoat.se

Or contact:

robertbergh@pixelgoat.se

Fig.19

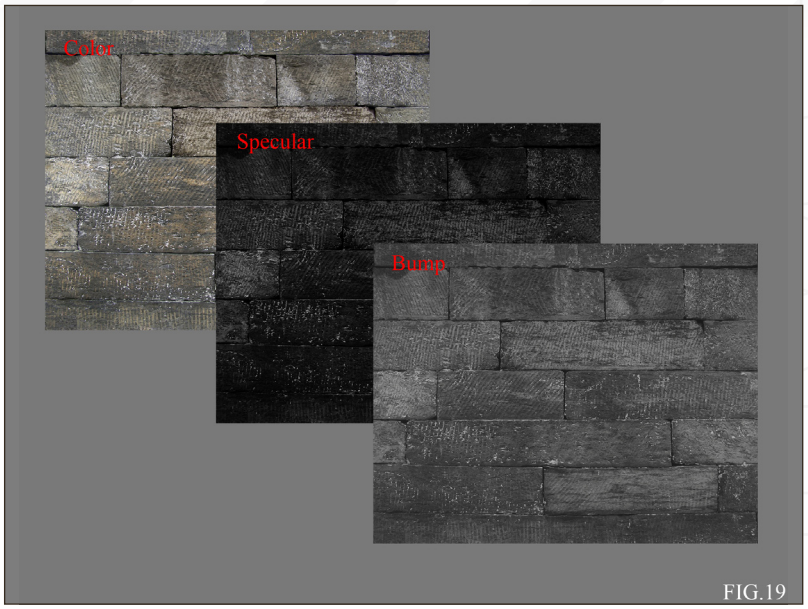
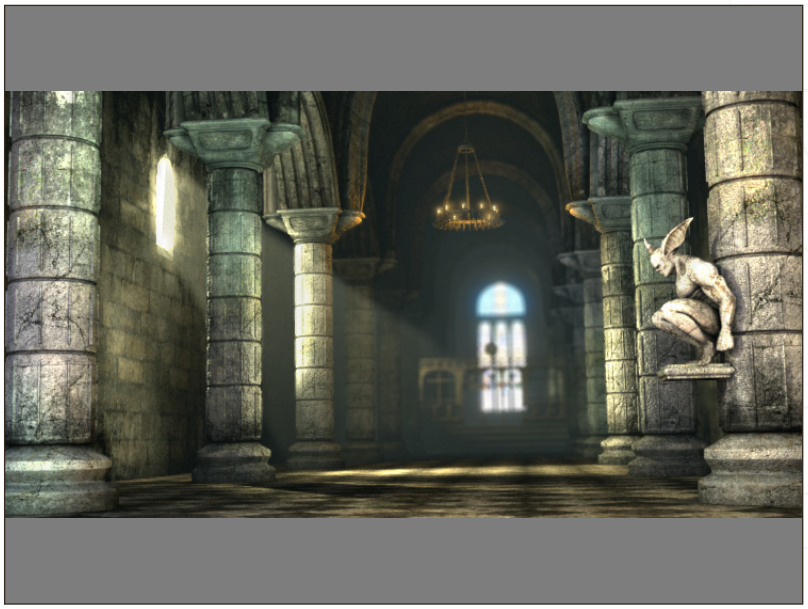


FIG.19

Fig.20



FREE RESOURCES DOWNLOAD HERE